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FOREIGN AGRICULTURE REPORT
OFFICE OF
FOREIGN AGRICULTURAL RELATIONS
U.S. DEPARTMENT OF AGRICULTURE
WASHINGTON, D.C.

ARGENTINE FARMING
AND
FARM TRADE

by

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FOREIGN AGRICULTURE REPORT No. 25 JUNE 1948

CONTENTS

Page
- Physical Geography 1
  - Location and Size 1
  - Topography 3
  - Rivers, Lakes, and Drainage 6
  - Soils 8
  - Climate 8
- Natural Resources 13
  - Vegetation 13
  - Forests 14
  - Minerals 15
- The People 16
  - Racial Types 16
  - Migration 16
  - Population Growth and Settlement . . . 16
  - Regional Distribution 17
- Development of Farming and Agricultural Trade 17
  - Establishment of Beef- and Grain-Export Trade 17
  - Farm Exports 19
  - Effect of Recent War Upon Farm Production and Trade 19
  - The Export Pattern 22
  - Farm Acreage and Land Use 23
  - Farm Ownership and Tenancy 24
  - Availability of Land 26
  - Comparative Cost of Production 30
- Natural Farming Regions 33
  - The Pampa 33
  - Mesopotamia 36
  - The Chaco 36
  - Oases, Arid Plains, and Mountains of the West 37
  - Patagonia 40
- Principal Crops 42
  - Wheat 42
  - Corn 45
  - Other Cereals 46
  - Oilseeds 48
  - Alfalfa and Other Pasture Grasses . . . 49

Page

Principal Crops - continued

  - Sugarcane 50
  - Cotton 52
  - Fruit 52
  - Tobacco 53
  - Yerba Mate 53
- The Livestock Industry 56
  - Cattle 56
  - Poultry 58
  - Hogs 59
  - Sheep 59
  - Horses 60
- Transportation 61
  - Railroads 62
  - Highways 63
  - Waterways 63
- Processing of Farm and Forest Products . 65
  - Meat Packing 65
  - Wheat Milling 66
  - Manufacture of Dairy Products 66
  - Sugar Refining 66
  - Vegetable-Oil Crushing 66
  - Textiles 66
  - Quebracho Extracting 67
  - Leather and its Products 68
  - Other Industries Based on Agriculture 69
- Cooperative Marketing 69
  - Grain 69
  - Dairy Products 69
  - Other Products 70
  - Cooperative Credit 70
- Foreign Farm-Trade Policy 70
  - Methods of Trade Control 71
  - The Central Bank 72
  - Commercial Agreements 72
  - Commodity Controls 75
  - Trade Promotion 81
  - State Trading 81
  - Prospects for Future Foreign Trade . . 83

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ARGENTINE FARMING AND FARM TRADE

Argentina is one of the world's foremost exporters of grains, vegetable oils, meats, and cattle hides. It is favored by low-cost production and low-cost marketing because of the nearness of the farms of the Pampa region to ports. Argentina is a leading surplus producer of many farm commodities produced in volume in the United States and, consequently, competes with this country in foreign agricultural trade.

PHYSICAL GEOGRAPHY

Location and Size

Argentina shares the lower portion of the South American Continent with Chile, from which it is separated by a 2,500-mile-long boundary that follows the crest of the Andes. It is located in the Southern Hemisphere due south of New England but east of most of the United States. It is bordered by Bolivia and Paraguay on the north; by Brazil, Uruguay, and the Atlantic Ocean on the east; and by Chile on the west (fig.1).

Because of the location and configuration of the South American Continent, Argentina is far removed from the principal world markets, which are located in the Northern Hemisphere. The ocean distance from Buenos Aires to Southampton, England, is 6,250 miles and from Buenos Aires to New York, 5,930 miles. Nevertheless, oceanic transportation is relatively cheap, and Argentina is favored by the proximity of its farm lands to ports. The chief ports are linked with the Atlantic trade routes by the Paraná and Plate Rivers.

Oceangoing steamers call at Buenos Aires and Rosario, on the Plate and Paraná Rivers, respectively, where splendid harbor conditions permit them to receive cargoes readily. At Rosario, the world's number-one corn port, grain slides down chutes by gravity from the port's warehouses to the steamers on the river. At Buenos Aires some packinghouses are located alongside the docks, and dressed carcasses move directly from packinghouses aboard ship by way of conveyors.

There is heavy two-way trade between Argentina and the United States and Argentina and European countries. Hundreds of steamships, loaded with grain and meat, annually move from Rosario and Buenos Aires, Argentina, to Europe. On returning, they bring manufactured goods, coal, and bricks. Argentine trade in normal times is predominantly with Europe and secondarily with the United States. This country takes wool, hides, skins, and sometimes corn and sends manufactured goods - especially farm machinery - and chemicals in return.

There is also a triangular movement of vessels from Europe to Cape Town, South Africa, thence to Buenos Aires, and back to Europe. Vessels discharge at Cape Town and generally find no cargo to carry back to Europe. Hence, they make the 3,600-mile

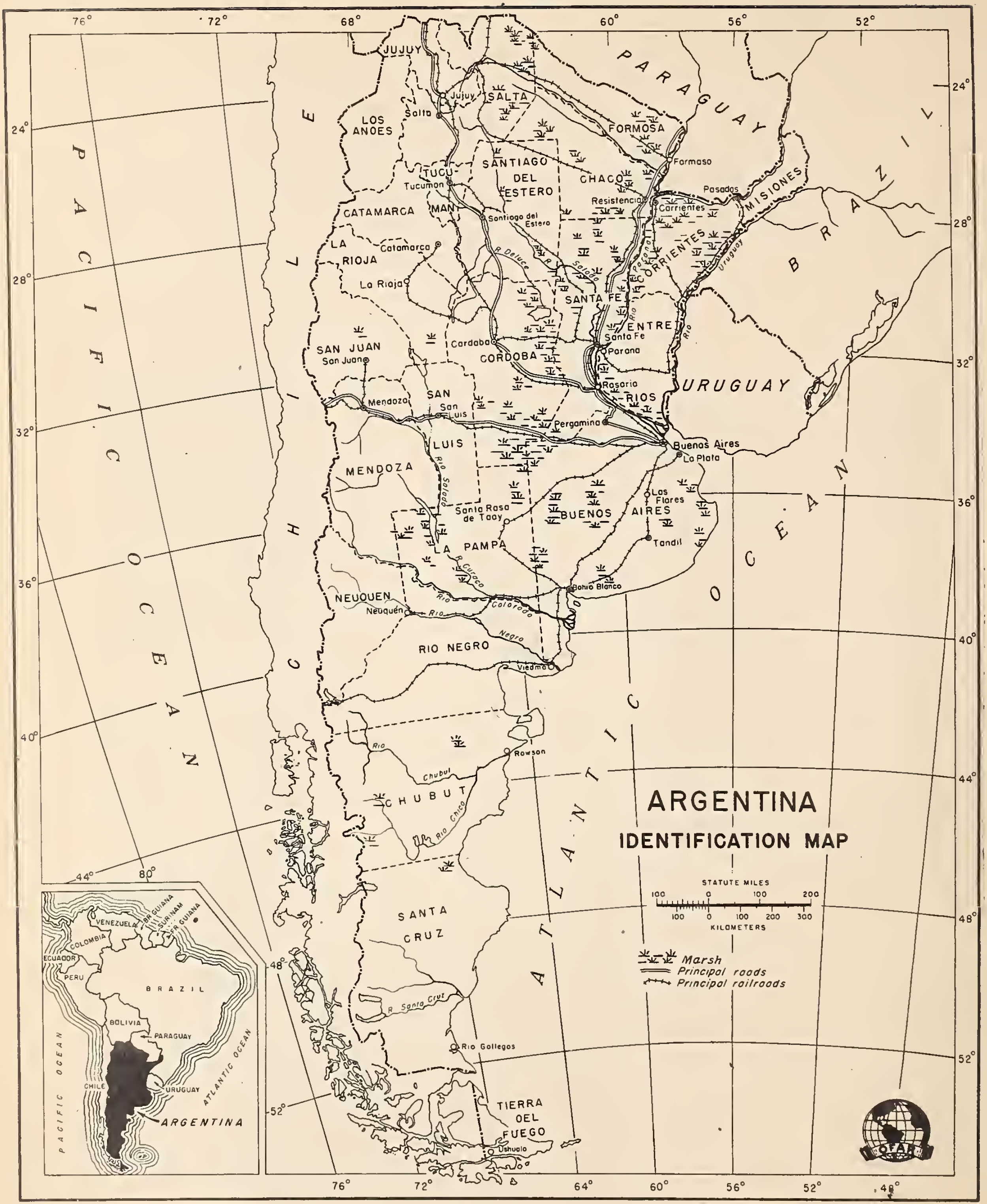

FIGURE 1.- Indentification map of Argentina showing location, boundaries, political subdivisions, principal cities, and major rail lines.

trip across the southern Atlantic and pick up cargo at Buenos Aires or Rosario. Argentina exports more cargo than it imports, which makes the triangular trade possible. There is little trade between Argentina and Africa, although they are relatively near each other.

If a map of the continent of South America is superimposed upon that of the continent of North America so as to keep latitudes in correct position but without regard to exact positions of the meridians, Argentina would extend from Cuba to Hudson Bay (fig. 2). However, the temperature does not drop quite so low in southern Argentina as at Hudson Bay. The temperature of northern Argentina, compared with that of Cuba, is somewhat higher.

Argentina is an extremely long country. It extends for about 2,300 miles north and south. Its maximum width is 900 miles, and its coast line, which faces the southern Atlantic, is more than 1,600 miles in length. Reaching so far north and south, the country has a variety of climates, but the greater part of it is in the Temperate Zone.

Argentina embraces an area of approximately 1,080,000 square miles. It is equivalent in size to that portion of the United States lying east of the Mississippi River plus Texas. The average total acreage planted yearly to 52 principal crops in the United States was 360 million acres from 1929 through 1945. By comparison, the total average planted acreage in Argentina during this period was 67 million acres. Argentina's planted acreage, therefore, is about one-fifth as large as that of the United States.

Topography

Except in Argentina, the topography of South America does not favor foreign trading. The Andes form a barrier along the Pacific coast and along much of the continent's Caribbean coast. Brazil's Atlantic coast likewise is chiefly mountainous. In Argentina, however, there is no barrier between the highly productive farming regions and the sea. As a result, an extensive rail and highway network radiates inland from the Argentine ports. In the United States, the corn and hog belt is located far in the interior, and exports from it necessitate a long and expensive haul. The grain and livestock zone in Argentina, on the other hand, is located near the ports where trans-Atlantic steamers call. Only a short haul by rail or truck is required, and the level topography of the zone has facilitated the construction of railroads and highways and has lessened transportation costs.

Argentina slopes from the Andes in the west to the Atlantic seaboard. The Argentine Andes reach a maximum elevation of 23,080 feet atop Aconcagua, the loftiest peak on the continent. From the Bolivian border in the north to the Río Negro in the south - a distance equal to about half the country's length - the mountains extend eastward for about one-third the width of the nation, with spurs and flanking ranges running to the east.

The Patagonian Andes extend from the Río Negro to the Strait of Magellan at the southern tip of the continent. They differ in character from the northern Andes and diminish in height toward the south.

In the north is located the Gran Chaco, a warm lowland zone. The northern extremity of it lies in the Torrid Zone. It comprises tropical forest lands alternating with plains, large areas of which are covered with salt deposits. Elevations vary from 600 to 800 feet above sea level. The land slopes to the east but so slightly

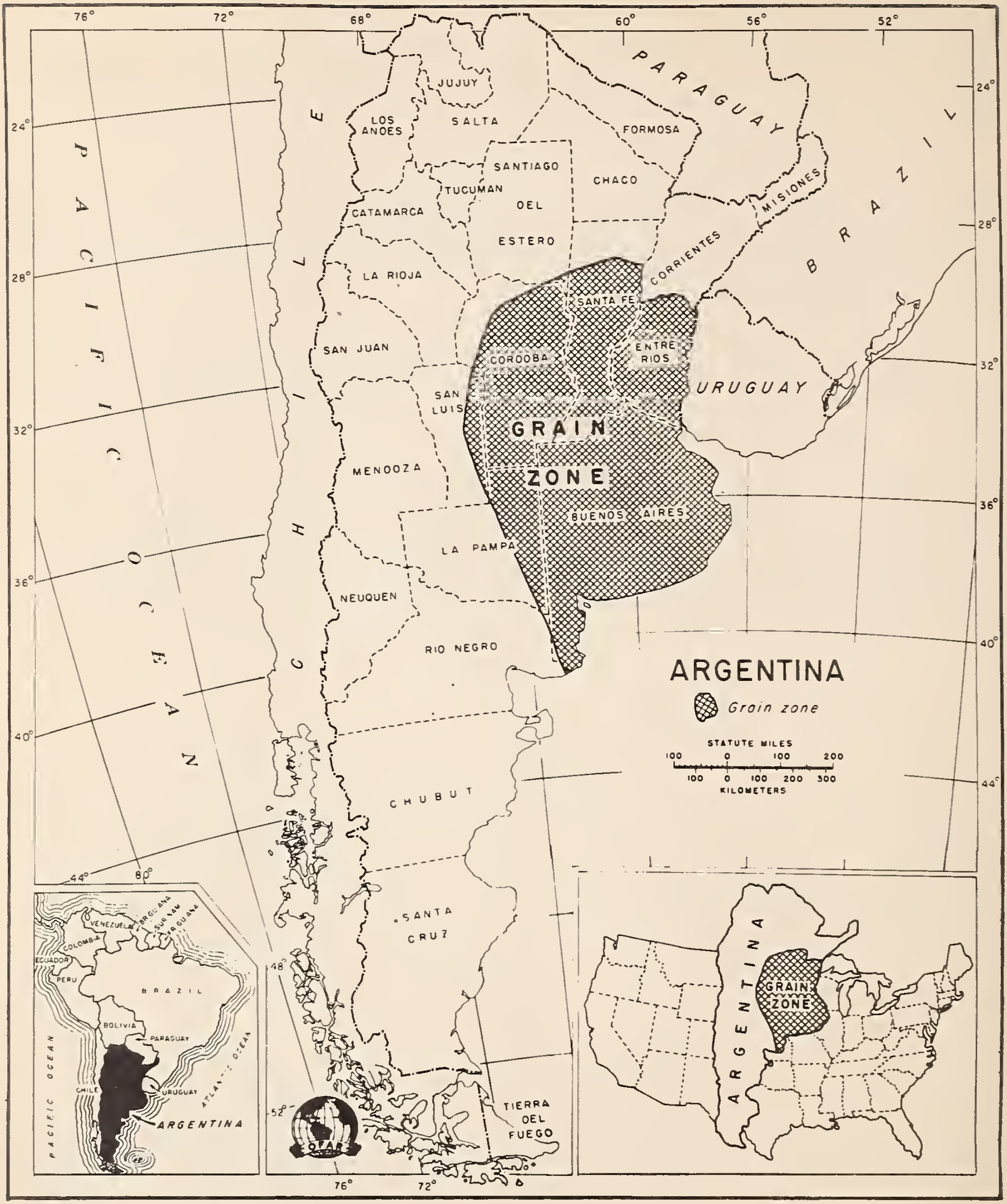

FIGURE 2.- If Argentina were superimposed upon the United States, in its relative latitudinal position, the Argentine grain belt would occupy the same relative latitudinal position as that of the United States.

that sand bars obstruct the rivers, and floodwaters cover large areas of land during the rainy season. The area lying between the Paraná and Uruguay Rivers, known as Mesopotamia, belongs to the Chaco region. In the north, it is wooded, flat, and swampy; in the south, higher and undulating.

In the center of the seaboard is the rich Pampa region which on the north reaches the Chaco, on the west the highlands that rise to the Andes beyond, and on the south Patagonia. The Pampa supports the majority of the Argentine population, embraces the large cities, and covers about a quarter of the country. It is the most extensive temperate plain in the Southern Hemisphere. It appears to the eye to be dead level, but it actually rises gradually from the Atlantic westward at an average rate of about 3 feet to the mile. The elevation of the Pampa varies from 65 feet at Buenos Aires to 1,250 feet 400 miles due west.

In Buenos Aires Province the pampean plain emerges from the sea in a series of low cliffs and sand dunes. Low cliffs, or promontories, also are found along the Paraná and Plate Rivers. The cities of Santa Fé and Rosario on the Paraná, Buenos Aires and La Plata on the Plate, and Mar del Plata on the Atlantic are all situated on promontories.

One major interruption in the level land surface of the Pampa occurs in the southern part of Buenos Aires Province. Two adjoining low mountain ranges - the Sierra del Tandil, having a maximum height of 1,500 feet, and the Sierra de la Ventana, of 4,500 feet - arise like islands upon the pampean plain.

Patagonia stands apart from northern Argentina by virtue of its colder climate, semiaridity, and plateau topography. It is characterized by stormy, shifting, cloud-laden winds that blow steadily throughout the year and are bitterly cold in winter. These winds create a haze of dust that limits visibility. Ranch houses are generally located in the protective canyons that dissect the plateaus from east to west and afford protection from the elements.

Along the Atlantic coast, cliffs mark the edge of the plateaus. Oceangoing vessels can land at the Chilean port of Punta Arenas in the Strait of Magellan and at Puerto Madryn on the Patagonian coast, but between these ports the tidal range is so great that only smaller coastwise steamers can land safely in the river bays.

From the coast, level plateaus, divided at intervals by canyons, extend westward to the Andes. At places the dry, cold, isolated Patagonian plateaus are as high as 5,000 feet above sea level. In the west, they terminate abruptly in cliffs, which are separated from the steep upward slopes of the Andes by a narrow lowland belt called the Sub-Andean Depression. This is a continuous, depressed passage from Punta Arenas on the Strait of Magellan northward to a point above Lake Nahuel Huapí, except for a few interruptions by spurs of the Andes.

The island of Tierra del Fuego - land of fire - adjoins the continent at the Strait of Magellan. The western section of the island is Chilean territory, and the eastern, Argentine. It is similar in character to Patagonia and a great sheep country. In the north is an undulating prairie, and in the south, a scrubby-wooded hill country with numerous glaciers, rivers, and lakes.

Rivers, Lakes, and Drainage

Northern Argentina is drained by the three great rivers that form the Plate River system, the Paraguay, Paraná, and Uruguay. The Plate is formed by the confluence of the Paraná and the Uruguay about 25 miles above the city of Buenos Aires. It is actually a large estuary and forms a sizable gulf. It is about 100 miles long, about 56 miles wide at its broadest point near Montevideo, Uruguay, and about 23 miles wide at the confluence of the two rivers. The Plate is shallow, and ocean steamers navigate it through a narrow channel that is constantly dredged because of the large quantity of sediment being deposited in it by the two inflowing streams. The depth of the water is governed chiefly by prevailing winds.

The Paraná, similar in appearance to the Mississippi, is about 2,750 miles long and several miles wide along the lower third of its length. Ocean steamers call at Rosario, 250 miles above Buenos Aires, and smaller vessels travel much farther upstream. The Paraná's chief tributary is the Paraguay River. This originates in the south central part of Brazil, from which it flows some 1,550 air miles to join the Paraná. The Paraguay-Paraná-Plate system offers the chief means of communication between Paraguay and Argentina.

The Uruguay River forms the eastern boundary between Argentina and Uruguay, and a portion of the boundary between Argentina and southern Brazil. It originates in the Brazilian highlands. It is about 800 air miles long, several hundred miles of which are navigable, and serves as a means of communication between Argentina and Uruguay.

The area known as Mesopotamia, between the Paraná and Uruguay Rivers, is drained by several small streams that flow into these flanking rivers.

In the central portion of the Pampa, in Buenos Aires Province and La Pampa Territory, almost no running streams are found, but the land is in no sense arid. A number of small streams flow into the Plate estuary and into the Atlantic just below it. The most important of these is the Salado del Sur, which rises in Córdoba Province and flows to the sea. Lacking a perceptible current, it is more like a succession of lagoons and marshes than a stream. It inundates a large area of rich prairie soil which could be drained. Many rivers in Argentina are saline and are frequently named Salado or Saladillo.

Two important rivers - the Colorado and Negro - are located south of the Atlantic port of Bahía Blanca. They cross the Republic from the Andes to the Atlantic. Both flow through semidesert regions, and water diverted from them irrigates large river-valley areas.

Several rivers flow from the Andean foothills eastward toward the Atlantic in Patagonia. None of these are navigable, and crops are grown along only one of them, the lower Chubut River, and on a small scale.

The most important and picturesque lakes in Argentina are located in the Andean Depression in southwest Patagonia. A chain of 50 odd clear, long, deep, sapphire-colored glacial lakes lie in evergreen forests between snow-capped Andean peaks. The largest are Nahuel Huapí, Buenos Aires, Viedma, Argentino, La Plata, and Fontana. The surrounding area serves as a recreational national park. Here the Andean Range is lower, permitting rain and snow to fall from moisture-laden winds coming in from the Pacific. This precipitation created the lakes in the Andean Depression and favors the growth of heavy timber. Farther north, the Andes are much higher, and little rain falls on the Argentine side of the range.

Numerous lakes, too small to appear on maps, occur elsewhere. Buenos Aires Province has more than 600, mostly small and many saline. La Pampa Territory likewise is dotted with small lakes.

Shallow lagoons are numerous in the eastern half of Buenos Aires Province, many of which are also saline. Standing water renders millions of acres of rich land unfit for cultivation. Some areas are under a few inches of water continuously; others are inundated following rains. As a result, the eastern half of this Province is devoted largely to pasturage. Other extensive lagoons are found in other parts of the Pampa, in Mesopotamia and in the Chaco. In the latter regions many alkali flats occur. The rain falls in the wet season, evaporates during dry weather, and leaves these salt flats or pans, as they are sometimes called.

The Pampa, Mesopotamia, and the Chaco are, for the most part, poorly drained (marshland areas are indicated on fig. 1). Rivers of the Pampa rarely flow in well-defined channels. Because of evaporation and infiltration, many fail to reach the sea. Except near the Plate estuary and along the Atlantic coast, the Pampa contains few rivers and streams. Some streams begin, flow a few miles, and disappear, because the water enters depressions, and the pervious soil absorbs it. Underground drainage predominates, and the water table is only a few feet below the surface of the earth in many places. This type of drainage influences railroad and highway construction and farming in the Pampa.

Where there are no streams, rainfall flows to the numerous shallow depressions, where it is absorbed by the porous soil. These depressions are barely noticeable in dry weather. Some of the run-off accumulates in seasonal lakes and marshes.

Because of the shallow water table, alfalfa is especially adapted to large expanses of the Pampa. Its long roots can readily tap the underground water in areas unsuited to the production of other good grazing grasses.

Water suitable for drinking is difficult to obtain in the Pampa and in the northern and western areas. Much of the surface water is brackish, as is the underground water near the surface. Windmills are a conspicuous feature of the Pampa, and they pump drinking water generally from depths of 100 to 500 feet.

Southern Mesopotamia is much better drained than the Pampa. The tributaries of the Paraná and Uruguay follow fixed channels, and the rolling terrain favors good drainage. The Paraná River, however, inundates a wide area of low-lying land during its flood season. Extensive swamplands and sizable lagoons make the land in northern Mesopotamia unfit for farming.

Drainage generally is poor in the Chaco and constitutes a serious hindrance to farming and grazing. Because of the level surface, this region has many swamps of brackish water. During the rainy season, large areas are flooded, sometimes to a depth of 1 foot. During the well-defined dry season, the water disappears and many streams vanish. At this time of year it is virtually impossible to get fresh drinking water for humans and stock. Water is brought in by train in certain areas.

In the Andean region to the west, interior drainage is characteristic, which, combined with high evaporation and porous soils, has resulted in the formation of great salt plains in the Puna de Atacama and other western areas. The Puna de Atacama is a high, desolate interior plateau. It has an average elevation of 12,000 feet and is located along the Chilean border in northwestern Argentina.

Several rivers originate in the Andes west of the Chaco and Pampa and flow toward the Atlantic. The Bermejo and its major affluent, the San Francisco, originate in the northwestern Andes and flow across the Chaco to the Paraná. The Salado rises in the northwestern Andean foothills, flows in a southerly direction across the Chaco, and empties into the Paraná at Santa Fé. The Dulce River waters the important oases at Tucumán and flows southward to empty into a great salt plain in Córdoba Province. The Tunuyán and Mendoza Rivers water the productive Mendoza oasis which centers about the city of the same name.

Patagonia is drained by a number of rivers fed by melting glaciers that flow out of the Sub-Andean Depression, thence across the Patagonian plateau through deep canyons, usually several miles in width, and into the Atlantic. The more prominent valleys are formed by the Negro, Chubut, Deseado, Chico, Santa Cruz, and Gallegos Rivers.

Soil

The soils of the Pampa are of alluvial and aeolian origin. They are exceptionally deep and free of stones and pebbles. Near the Paraná River is a broad zone of fertile, dark loam, which is especially favorable for corn production. Toward the interior, the soils tend to be light and sandy. In the drier western Pampa, commencing some 200 miles west of the city of Buenos Aires, sand dunes are common. In the eastern part of Buenos Aires Province, heavy clay soils are found.

North and west of Bahía Blanca and west of Mar del Plata, a zone of limestone stratum is located beneath the soil, generally near the surface, but at places exposed. Where it occurs near the surface, the land is of little value for either crops or pasture, since alfalfa and other deep-rooted plants cannot grow on it. All crops in this area suffer severely unless rainfall occurs regularly.

Except in Misiones Territory, the soils of Mesopotamia consist of fluvial deposits of clay, silts, and sands. In the south, these are fertile well-drained loams with a good humus content. In the north, a plateau covers much of Misiones. Basalts and sandstones on it have decomposed into a deep rich red soil.

In the Chaco lowlands, fertile alluvium occurs which, when drained, is suitable for cropping. On the higher land, layers of hardened clay occur frequently, and the soils are often saline.

Throughout most of the Andean region west of the Chaco and the Pampa, excessive aridity, extreme temperatures, and alkalinity of the soil limit farming to marginal livestock grazing. Goats, grade cattle, and wool sheep are grazed on arid shrubs and hard grasses. In the irrigated oases in this region, however, various crops grow on fertile alluvial soil, which is frequently of volcanic origin.

In Patagonia, the rocky surface of the plateaus is often covered with weathered lava, river and glacial debris borne from the Andes, and decomposed sedimentary and igneous rock. As the material weathers, the fine particles are generally blown away by the wind. Only along the river bottoms of some of the canyons that dissect the plateau is the soil material capable of supporting crops.

Climate

General climatic characteristics.- Argentina extends north and south through 33 degrees of latitude, a distance as great as that between Cuba and Labrador, and ranges in elevation from sea level to 23,000 feet. Its climate is tropical in the north, temperate in the middle, cold in the south, humid in the east and north, and semiarid in the west and south. Modifying influences are mountain barriers in the west, winds that sweep the country from north and south, and the narrowing of the continent toward the south. Southern Patagonia and Tierra del Fuego, although corresponding in latitude with Labrador, or southern Hudson Bay, are habitable and suitable for sheep raising because of the modifying influence of the sea.

Because Argentina is located in the Southern Hemisphere, Christmas comes in midsummer. The same calendar is used in both the Northern and Southern Hemispheres, but Argentina's January climate is similar to that of the United States in July. Thus Argentina has summer heat in January and winter cold in July. Argentina's spring crops are generally planted in September, October, and November and harvested in January, February, and March. The longest day of the year comes on December 22 and the shortest on June 21.

Winds from the north are warm; those from the south, cold. In winter, the sun is in the northern Argentine sky, whereas in the United States, it is in the southern sky. Horses run counterclockwise on racetracks in the United States and clockwise in Argentina because of the change of rotational forces in the Southern Hemisphere.

Rainfall varies greatly from year to year. According to Estabrook *(2)*[1] more rain has fallen in a single month of a wet year than during the entire 12 months of a dry year on several occasions. At times rains are sufficiently heavy to inundate large areas of the Pampa and Chaco.

With rainfall fluctuating to such an extent, the production of cereals varies widely from year to year. Out on the western edge of the Pampa, rains are never heavy. In years of good rainfall, grain can be grown, but in years of light rain production is prohibited. Crop growing is speculative, and dry farming is attempted.

In the humid northeastern Pampa, where rainfall is heavier, yields are more constant and the plants suffer only in occasional years when severe drought is encountered. The region around Rosario and Pergamino rarely has a drought, but in the surrounding country dry years occur.

From Patagonia to the northern Tropics, the country for the most part is level east of the Andean Range. Consequently, sudden changes in temperature and rainfall are experienced with changes in the direction of the wind. When the wind blows from the Tropics in the north, the weather on the Pampa is warm in winter and very hot in summer. On the other hand, winds from the south are cooling.

Polar air frequently is carried the full length of Argentina and farther northward to the Amazon Basin at the Equator because of the lack of mountain barriers. However, the cold waves that sweep northward in Argentina in the winter (June, July, and August) cannot be compared with those that sweep across Canada and the United States. In South America, polar air comes from the ice-free seas south of the continent rather than from vast snow-covered land areas and frozen polar seas as in North America. The lowest temperature recorded in Argentina outside the Andes has been 7° F. below zero, whereas in Canada, temperatures as low as 82° below have been recorded.

In the north, sugarcane, cotton, and other tropical plants thrive. In the city of Buenos Aires, which is near the ocean and about halfway between the country's northern and southern limits, palms survive out-of-doors if planted (they are found naturally, however, only in northern Argentina). In the extreme south, only grasses, hardy dwarf trees, and shrubs are found.

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[1] Italic numbers in parentheses refer to Literature Cited, p. 85.

New York has virtually the same average temperature during July (73.5° F.) that Buenos Aires has in January (73.6° F.). The winter temperature of Buenos Aires is equivalent to that in Charleston, S. C. The average temperature of July, the coolest month in Buenos Aires, is 48.9° F. The city's average annual temperature is 61.0° F. It should be pointed out that average temperature figures obscure the daily and seasonal range in temperatures. Frost is common in Buenos Aires, but snow has fallen only in occasional years. In the southern Pampa region and in Patagonia, snow falls annually.

The Pampa.- The mild winter temperature on the Pampa permits livestock to graze the year around. The growing season from killing frost to killing frost varies from about 237 days around the city of Buenos Aires to about 141 days on the Atlantic edge of the Pampa at Mar del Plata. The average date of the first frost at the city of Buenos Aires is May 15, and of the last, September 19. The average date of the first frost at Mar del Plata is May 4, and of the last, December 13. The cool Falkland Island ocean current strikes the south-facing coast line between Bahía Blanca and Mar del Plata. This lessens the summer temperature as indicated by the longer frost season. The summers are so cool that corn does not thrive in the southeastern Pampa. Thus, the land is used for pasturage and wheat. On the other hand, the summers are hot in the northwest Pampa around Rosario and Santa Fé, the center of grain and flax production.

Hot sultry winds blow from the north, and cool invigorating winds from the south. Along the fronts where the winds from these opposing directions meet, the warm and humid tropical air is forced up by the cool, producing clouds and rain. Cyclones move across the Pampa much as they do in the United States, except that in Argentina, they travel in a clockwise direction, from east to west. Violent thunderstorms occur along the cold fronts in Argentina, and in the eastern Pampa lightning is severe.

In the vicinity of the city of Buenos Aires, annual rainfall is from 37 to 41 inches (fig. 3). It decreases southward and westward. At Bahía Blanca, about 21 inches fall and, on the western margin, about 16 to 18 inches. In the humid east, precipitation is rather evenly distributed throughout the year. To the west, however, rain comes chiefly in the summer - December, January, and February.

Mesopotamia.- Mean annual temperatures increase northward in Mesopotamia from 63° to 70° F. January temperatures, which are the highest of the year, average 77° F. throughout most of the region, except on the elevated plateau in Misiones, where it is cooler.

Mesopotamia is the wettest region in Argentina. Most of it receives 40 odd inches annually, but in Misiones, in its northernmost portion, as much as 67 inches falls on the plateau. The summers in Mesopotamia are hot and rainy, the winters mild and relatively dry. The climate is similar to that of eastern Texas.

The Chaco.- Summer temperatures in the Chaco region are among the highest in South America. Winds from the north prevail at this season. Therefore, the climate is hot and humid, similar in fact to that of our Gulf-coast region. Winters are mild and dry. Frost occurs in the south. Occasionally in summer, and often in winter, cold-air masses move up from below the continent and cause thunderstorms and cool weather.

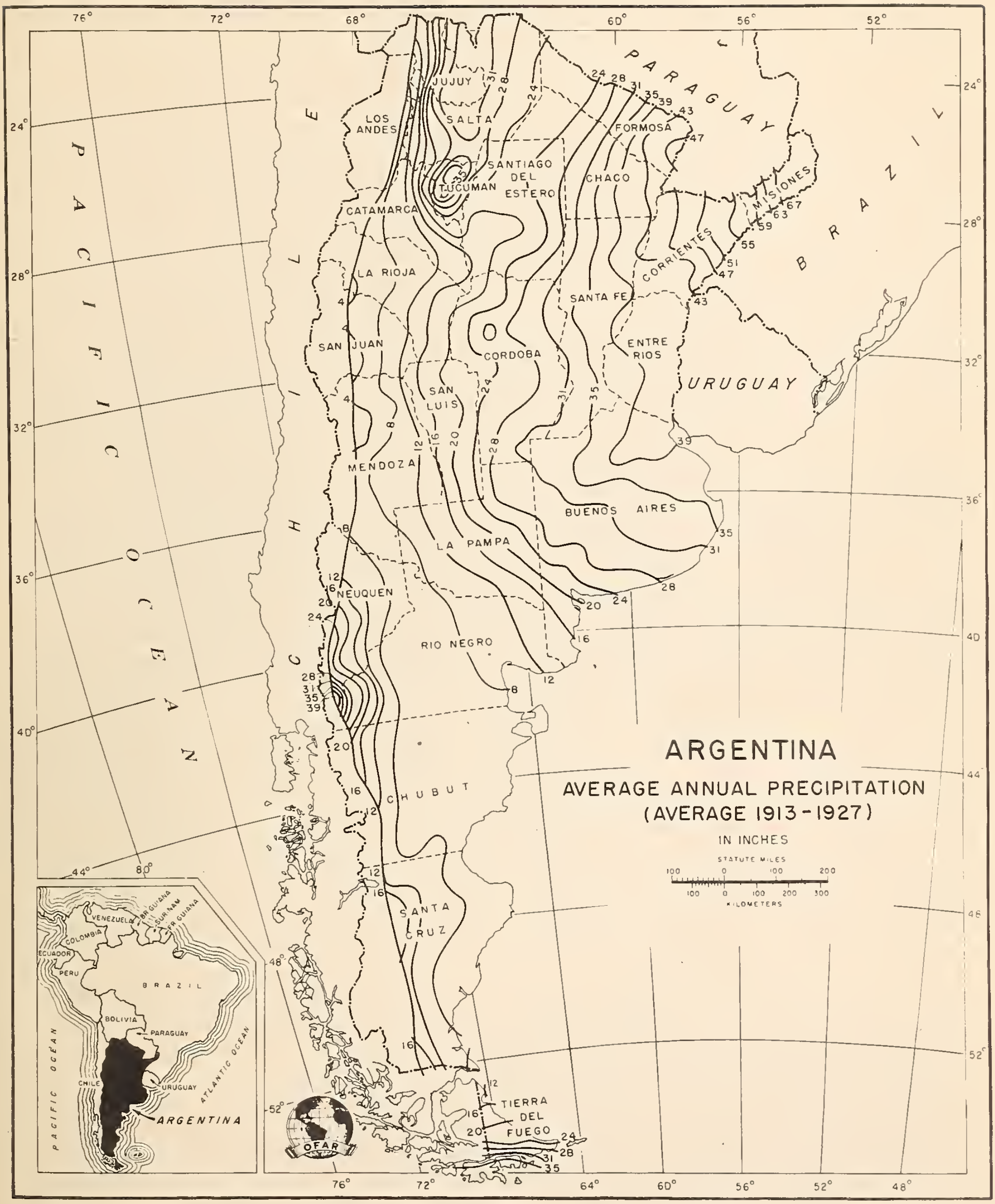


FIGURE 3.- Average annual precipitation shown in inches along lines of equal rainfall.

In the eastern Chaco, along the Paraná River and Paraguayan border, annual rainfall averages about 36 inches. This decreases toward the west. In the high Andes annual rainfall averages about 4 inches. West of a line extending north and south about halfway between the Paraná River and the Andes, crops cannot be grown without irrigation.

The Andean Region.- Temperatures vary with the altitude in the Andes. In the high regions, it is always very cold; on the piedmont fronting the mountains, winters are mild, summers warm. Except in an isolated high-rainfall area centering on Lake Nahuel Huapí in the south, and along the eastern boundary of the mountain zone in the northwest from the Bolivian border down to and including Tucumán, aridity, however, is prevalent. This is indicated by the vegetation which consists of hard grasses, cacti, resinous shrubs, and other drought-resistant plants.

The triangular area lying between the cities of Tucumán, Córdoba, and Mendoza is dry, with little exterior drainage. Salt flats and salt lakes are numerous. This region resembles the Great Basin in the United States. From the Tucumán sugarcane oasis northward, through the valleys of Salta and Jujuy Provinces where corn is grown, the more porous soils must be irrigated, but those that are less porous are not irrigated. Water is derived from streams flowing down the eastern face of the Aconquija Range, an isolated area of heavy rainfall. Near the base of these mountains in the environs of Tucumán, good air drainage and cloud blankets provide a frost-free winter. Sugarcane thrives here for a distance of about 35 miles east of the mountain front. Beyond this point, the frequency of frost increases, and cane production becomes hazardous.

South of Tucumán, the climate is quite dry in the previously mentioned triangular area. Irrigation is essential, and dry-land farming is restricted to the oases fed by streams which flow down from the snowfields of the high Andes. The chief oases are at San Juan, Mendoza, and San Rafael. Others are located at La Rioja and Catamarca. Alfalfa, for the fattening of cattle, and grapes, for table and wine purposes, are the chief crops. The oasis region forms a transition zone between the hot deserts of the north and the cool deserts of Patagonia.

Patagonia.- In Patagonia, annual average temperatures range from 43° F. in the south to 55° F. in the north. These are higher temperatures than one would expect to find so near the Antarctic. The moderating effect of the north-blowing winds from the ice-free southern sea, as mentioned previously, and the proximity of Patagonia to the Atlantic combine to cause the relatively moderate climate of the region. The winters are long and cold, however, and the summers short and cool. The seasonal range of temperature is not great. In fact, seasonal temperatures show a wider range in northern Argentina than in southern Patagonia, but average temperatures are lower in the south.

In Tierra del Fuego the temperature during the warmest month, January, averages about 50° F. and during the coldest month, July, about 35° F. Snow falls every winter throughout Patagonia and as far north as southern Buenos Aires Province. The further south one goes in Patagonia, the colder it gets.

Patagonia lies in the rain shadow of the Andes which means that, although rain is heavy on the Chile side, generally less than 10 inches fall in Patagonia (fig. 3). Rain comes principally in the summer - December to March - in the north, but it is fairly evenly distributed in the south. Rainfall is heavier along the Chilean border than to the east. Near Lake Nahuel Huapí it reaches 40 inches yearly. This is an isolated island of high rainfall which cannot be readily explained.

Annual rainfall increases from 12 to 36 inches from northern to southern Tierra del Fuego, but because of low temperature all year, shallow soils, and strong wind, plant life is limited to a heavy growth of grass with a light growth of short scrubby trees in the lower portion of the island. Dense sea are prevalent here.

NATURAL RESOURCES

Vegetation

Each climatic region has vegetation of a characteristic type. Tropical plant life flourishes in the humid Torrid Zone of the Chaco. Immense areas in the extreme north are covered with tall palms which are the principal trees of the forests there, and they serve for fuel, telegraph poles, and fence posts. South of the Bermejo River is an extensive tropical scrub region; palms intermingle with native hardwoods, the most important of which is the quebracho.

In the high, dry, saline region west and southwest of the Chaco lowlands, vegetation is sparse and of a desert type. Thorny bushes with little foliage and a variety of cacti, many of giant size, are characteristic. Except for Misiones Territory, where a dense rain forest is found, Mesopotamia is covered chiefly by grazing prairie in the north, scrub forest in the central part, and cropped prairie and scrub forest in the south.

The Pampa has two native trees of importance, the ombu and ceibu. The ombu grows singly and thus in isolation, chiefly in the eastern Pampa. Specimens appear as landmarks on the otherwise treeless prairie. The ceibu is a low-growing, crooked tree that prefers the swamps and river banks. It thrives in the delta region of the Paraná. The wood of neither is suited for fuel or timber.

Many trees have been introduced and planted around estate dwellings, cities, and towns in the past few decades for ornamentation, shade, and as a source of fuel and fence posts. The Australian eucalyptus is quite popular. Other varieties planted include the Lombardy poplar, willow, cottonwood, acacia, sycamore, chinaberry, black locust, and a number of evergreens.

Except where the land is cropped, the Pampa is covered with either "soft" or "hard" grasses. The "soft" are the planted and cultivated pasture grasses grown from seed originally imported. The area devoted to these grasses is increasing. They are desired because of their greater livestock-supporting capacity. "Hard" grasses are native and of coarse and sturdy growth but less desirable for grazing.

The most common tree in the semiarid western part of the Pampa south of Tucumán is the algarraba, a lichen-covered tree reaching a height of about 35 feet. It serves as a valuable source of fuel for locomotives and general heating. Large quantities are hauled to the cities. Further west of the algarroba zone, characteristic desert-shrub vegetation prevails.

Most of Patagonia is barren. The depressions and canyons of the plateaus afford sufficient pasturage for sheep grazing. Willows grow along the streams. In the irrigated sections along the Río Colorado and Río Negro, Lombardy poplar and willow are commonly grown for windbreaks and fuel. A thorny shrub growth is generally found on the open plateaus. Cultivable and good pasture land is found in the better watered valleys of the Andean foothills. Timber grows in the lake region of the Andean Depression.

Rainfall is heavier on the island of Tierra del Fuego. Good pasture grasses of Antarctic type thrive on the prairielike country in the north and central areas of the island. To the south, rainfall is sufficient to support a light stand of trees. The forests here and in the Andean Depression farther north on the mainland include pine, cypress, cedar, fir, and Antarctic beech.

Forests

The important forest resources include (1) limited stands of hardwoods in certain areas of the Andes of the northwest, (2) the tropical scrub forests of the north, (3) the Misiones forests, and (4) the forests of the southern Andes along the Chilean frontier. The Misiones and south-Andean forests have not been utilized, except for lumber for minor local construction. In other regions, however, the forests have been wastefully exploited. In each area there are a number of species intermingled, and the stands run heavy to hardwoods. Because of the shortage of conifers, most of the soft construction timbers are imported.

The northwestern stands occur in the better watered areas of the lower Andes in the Provinces of Jujuy, Salta, and Tucumán. Hardwoods are the major type, and this region, combined with the Chaco, produces most of the nation's domestic lumber. In the northwest timber belts the major species is the algarrobo. Others include the cerro, cedro, cebil, lapacho, palo blanco, and urundel, all useful for lumber. The algarrobo, of several varieties, produces a hard and durable wood which is utilized for lumber, posts, tool handles, paving blocks, wine-barrel heads, and fuel. It grows fairly rapidly and has a feathery compound leaf. The cedro is a magnificent tree. Its wood resembles mahogany, is easily worked, and useful for furniture construction and house trim. The cebil and lapacho are especially suited to heavy construction because of their great strength.

The tropical scrub forests of northern Argentina cover an extensive area. They extend along the west bank of the Paraná River from the Paraguay frontier in the north almost to the city of Santa Fé in the south and westward of this line as far as there is sufficient rainfall to support forest-type vegetation. They cover all but the westernmost portion of the Territory of Formosa; all of Chaco Territory; the northeast quarter of Santiago del Estero Province; and about the northern half of Santa Fé Province. This is the most heavily exploited forest area in the nation.

The species of greatest value here are the red and white quebrachos. The red quebracho is the most important tree in Argentina. It is a source of tannin extract, large quantities of which are used domestically and exported for leather-tanning purposes. Argentina is the world's largest supplier of tannin. The trees of the lowlands of the Territories of Chaco and Formosa are most heavily exploited, because their heartwood yields about 30 percent tannin extract. The tannin yield in Santiago del Estero and Santa Fé is lower, and the trees are used mainly for fuel, charcoal, and a hard, tough timber suitable for crossties and fence posts. Tannin-extraction plants are built on the Paraná River so that the product can be carried by boat downstream to the cities of Santa Fé, Rosario, and Buenos Aires. When the highest yielding trees have been cut in the area served by a plant, it is moved to a new, unexploited location.

Quebracho - which means break-ax - is a slow-growing, long-lived tree. Its maximum height is about 50 feet and its maximum diameter generally 3 feet. The wood of the red variety is a deep mahogany color, so hard it is difficult to work, and heavier than water. In fuel value, it is equal pound for pound to coal, which it replaces to a considerable degree. Probably less than half the original supply stands, and no effort has been made to replace the trees that have been cut. Estimates indicate that a century is required for the tree to reach maturity. In 1939, 215,000 tons of tannin extract were produced from 702,000 tons of wood. All standing red quebrachos will be exhausted in 40 years at the present rate of utilization.

Argentina and Paraguay are the world's sole producers of quebracho extract, over which they have a world monopoly. Consequently, an international cartel operates, which has the backing of the two Governments. Export quotas are set, 20 percent of which are filled by Paraguay and 80 percent by Argentina. Prices are fixed.

Charcoal is another important product of the northern scrub forest. Heaviest production is in Santiago del Estero and Córdoba Provinces. In 1939, 226,000 tons were produced from about 1.2 million tons of wood. The supply of wood from large areas along the western and southern margin of the forest has been exhausted. Charring is done by crude methods with no attempt made to utilize the volatile material given off in the process, whereas in the United States methyl alcohol, acetic acid, creosote, tar, and pitch are prepared from this material. White quebracho is used to a large extent for charcoal production.

The Misiones timber belt has considerable potential value, but, for the most part, it remains unexploited because of inaccessibility. Yerba maté, the leaf of which is used throughout South America in the same manner as tea, gross wild throughout the region. The commercial product is now grown under a plantation system, and the wild product is not gathered to any great extent. A number of timber stands occur, but they are difficult to reach. Along the Brazilian frontier the Paraná pine grows. This represents the southernmost extension of this pine on the South America Continent.

Even less utilized are the forests of the southern Andes that grow primarily on the slopes and in the valleys of the Andean Depression. In the Territory of Neuquén, certain stands are used for the manufacture of wood pulp and others for construction and furniture manufacture. About a third of the forests in this region have been destroyed by fire.

Minerals

Argentina lacks valuable deposits of iron ore, coal, and copper, which are basic to industrial development. Production of metals has been confined to small amounts of lead, zinc, tin, tungsten, and others of minor importance. Only one deposit of iron ore has been discovered to date, located in the extreme northwest, far from any supply of coal for conversion into metallurgical coke. Argentine resources of salt, lime, gypsum, and building materials are adequate for domestic usage.

The country produces and refines about two-thirds of its petroleum requirements. The major oil field is on the Patagonian coast at Comodoro Rivadavia. Most of its coal is imported, but the difficulty of obtaining imports and the high prices prevailing during the recent war caused a search for deposits. Several mines were opened in different regions. The most important is in isolated Neuquén Territory, but production has been insignificant.

The nation's population centers in the Pampa; yet this region is seriously lacking in stone, timber, road-paving materials, and water-power resources. Industries necessitating large quantities of fuel cannot operate economically. Heavy industrial manufacturing is almost unknown. Most steel and iron products are imported, and consequently automobiles, mechanized farm machinery, and industrial equipment are more expensive in Argentina than in the United States.

THE PEOPLE

Racial Types

A racial type has developed in Argentina as a result of the admixture of various European nationalities. The basic type is founded on Spanish-creole blood. In addition, there are large groups of Europeans who have migrated to Argentina in recent years. Their racial traits in time will be assimilated by the basic Argentine line. The latter has absorbed less of the native Indian population - with the possible exception of the Uruguayan - than any other nationality blood line in Latin America. Since the number of Negroes in Argentina is negligible, there has been minor opportunity for the absorption of the blood of this race.

There are probably 50,000 pure Argentine Indians, and they live mainly in the northern territories of Jujuy, Catamarca, Salta, Formosa, Chaco, and Misiones. Their number has been decreasing. A few hundred live in Patagonia, including Tierra del Fuego. In the northern territories there are considerable numbers of mestizos, people of mixed Spanish and Indian blood. Elsewhere, however, there are few Indians and mestizos.

Migration

About 77 percent of the Argentine people are native-born individuals of European ancestry, 20 percent are Europeans by birth, and 3 percent Indians or native-born Argentineans with an admixture of Indian blood. Of the Europeans by birth, Italians predominate. Since 1857, about a half of all immigrants have been Italians, a third Spaniards, and a fifth have represented some 63 other nationalities.

From 1860 through 1945, a total of 6.7 million people migrated to Argentina. A total of 3.2 million emigrated, however, giving a net migration figure of 3.5 million. As these figures indicate, a large number of immigrants later returned home.

Population Growth and Settlement

Argentina's population has increased rapidly and steadily as the following figures indicate:

Year	Estimated population[1]	Year	Estimated population[1]
	Number		*Number*
1819	527,000	1915	8,042,000
1837	675,000	1920	8,696,000
1860	1,210,000	1925	10,081,000
1869	1,830,000	1930	11,452,000
1895	4,045,000	1935	12,376,000
1900	4,794,000	1940	13,321,000
1905	5,678,000	1945	14,400,000
1910	6,587,000	1947	16,108,000

[1] The population was enumerated only in 1895, 1914, and 1947. For all years shown, except 1895 and 1947, official estimates are given.

In 1947 about half the total population of 16,108,000 lived in rural areas and the remainder in cities. Many of the immigrants settled in rural areas but later moved to the cities.

The largest city is Buenos Aires. It occupies the Federal District which corresponds to the District of Columbia in the United States. This city's population in 1947 was 3,000,000. In 1940 it was the world's tenth largest city, the third largest in the Western Hemisphere (after New York and Chicago), and the largest in the Southern Hemisphere.

Rosario is the second largest city in Argentina (population 515,000). It is attractive and modern, situated in the center of the corn belt on the Paraná River, some 250 miles from Buenos Aires. Important cities north of Rosario include Santa Fé (147,000) and Paraná (72,000). La Plata (193,000) is 35 miles below Buenos Aires on the La Plata estuary.

Bahía Blanca (110,000) is the largest city in the south, and in the west Córdoba (273,000), Tucumán (149,000), and Mendoza (82,000) are the most populous.

Regional Distribution

About one-fifth of the nation's population live in the city of Buenos Aires. Some 4.4 million, or almost one-fourth of the total, live in Buenos Aires Province, which embraces most of the Pampa region. An additional 3.9 million live in the Provinces of Santa Fé, Córdoba, and Entre Rios, which adjoin Buenos Aires Province. Thus, some 70 percent of the total population centers in an area including and immediately adjacent to the Pampa, which covers about a quarter of the total national area. Elsewhere the population is widely scattered with only a few persons to the square mile.

DEVELOPMENT OF FARMING AND AGRICULTURAL TRADE

Large numbers of immigrant farmers arrived in Argentina from Europe after 1850 and multiplied rapidly. Settlers moved farther and farther out on the plains. The railroad construction, which was started in 1857, was the beginning of the extensive rail network now found throughout the humid Pampa. The early settlers were seminomadic cattlemen whose herds roamed the open ranges. Their products were hides and dried and salted beef.

As rail and oceanic transportation developed, the land was fenced, and beef became the important livestock product. Because of exceptional soil fertility, portions of the land were planted to crops. An increasing demand for foodstuffs in Europe stimulated the flow of domestic and foreign capital - especially the latter - into the production, processing, and transportation of farm products. Consequently, farming expanded, and the resulting export trade became the foundation of the Argentine economy.

Establishment of Beef- and Grain-Export Trade

Three years after the invention of refrigeration in 1873, frozen mutton was exported from Buenos Aires to England, and later frozen beef was shipped. Beef did not move in any quantity, however, until about the end of the century. Improved animals

TABLE 1. - *Exports of specified commodities from Argentina, calendar years, averages 1921-45, annual 1941-45*

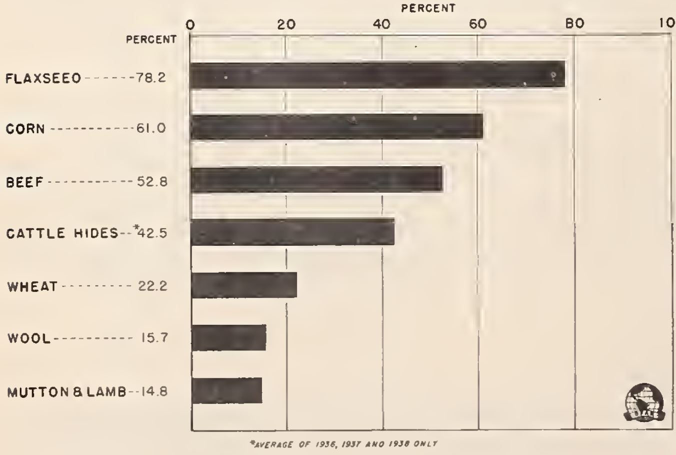
YEARS	WHEAT	CORN	OATS	FLAXSEED[1]	SUNFLOWER SEED	WOOL	BEEF	MUTTON	PORK
Average:	*1000 bushels*	*1000 bushels*	*1000 bushels*	*1000 bushels*	*1000 sh.tons*	*1000 sh.tons*	*1000 sh.tons*	*1000 sh.tons*	*1000 sh.tons*
1921-25	127,810	125,857	31,893	44,553	3	164	765	88	5
1926-30	157,097	231,018	31,681	65,355	(2)	155	811	86	7
1931-35	148,996	270,568	36,814	66,553	4	156	600	70	18
1936-40	120,623	198,272	21,188	51,305	10	164	684	57	21
1941-45	87,953	16,413	4,469	19,953	32	147	719	134	127
Annual:									
1941	89,998	21,774	7,294	27,482	19	204	855	55	46
1942	82,984	8,655	934	16,946	39	130	822	88	93
1943	76,167	7,496	4,066	30,135	22	118	693	166	135
1944	96,668	21,636	4,380	14,133	40	119	791	205	218
1945	93,949	22,506	5,670	11,069	40	162	432	155	143
Average: 1921-45	128,496	168,426	25,209	49,549	10	157	716	87	36

[1] Includes exports of oil in seed equivalent.

[2] Less than 500 short tons.

Compiled by Office of Foreign Agricultural Relations.

replaced scrub cattle to a great extent during the last two decades of the nineteenth century. Argentine producers imported good beef animals from England and carefully mated them in fenced pastures. The resulting type of animal required better feed and care. Consequently, cultivated pastures were utilized, and alfalfa was grown throughout large areas. Because of the advances made in breeding, herd management, feeding, conditioning, marketing, processing, and shipping, large quantities of prime-quality Argentine meat soon reached the European market.

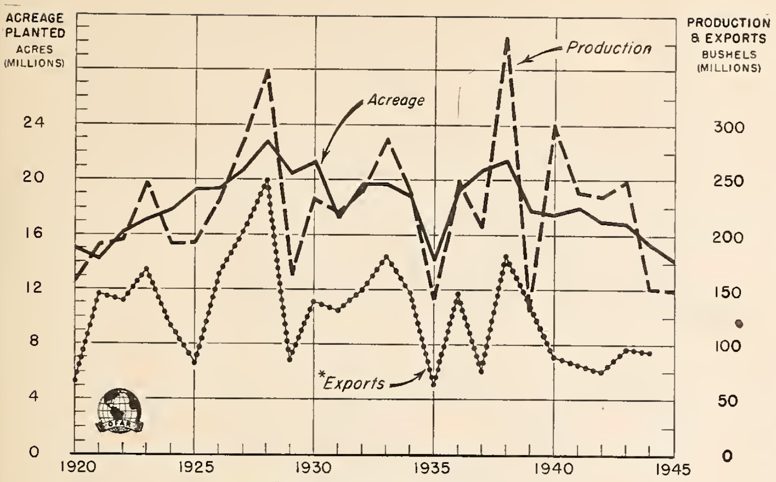


*AVERAGE OF 1936, 1937 AND 1938 ONLY

FIGURE 4.- Argentine exports as percentages of world total exports of specified commodities, average 1936-40.

United States and British packing companies constructed large packinghouses in Argentina to handle the meat trade. The houses serving the Pampa are located along the Plate River system and handle beef, pork, mutton, and poultry. Others located in southern Patagonia prepare large quantities of frozen mutton for export.

The first large overseas shipment of wheat left the port of Rosario in 1878. Grain exports increased rapidly and surpassed the value of livestock shipments by 1900. Since then, grain has held first place, except during World Wars I and II, when the value of meat exports was greater. Corn, wheat, mutton, wool, and hides were important exports prior to 1900, but thereafter diversification also brought into prominence flaxseed, sunflower seed, oats, barley, and rye.



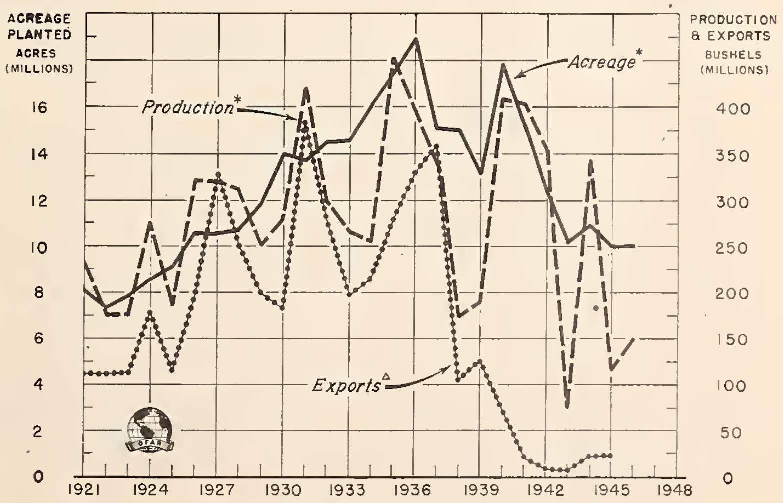
*INCLUDES FLOUR IN GRAIN EQUIVALENT
HARVEST GENERALLY COMPLETED IN DECEMBER OF YEAR SHOWN
*EXPORTS ARE FOR CALENDAR YEARS IMMEDIATELY FOLLOWING

FIGURE 5.- Argentine wheat acreage, production, and exports, 1920-45.

Farm exports

After the turn of the twentieth century, Argentina became one of the world's leading exporters of farm commodities (table 1 and figs. 4, 5, 6, 7, 8, 9, and 10). During and after World War I, its exports of farm products increased, reached a peak in 1928, and subsequently declined as a result of the world depression but continued to hold a dominating rank. From 1936 through 1940, its flaxseed exports represented 78 percent of the total world exports; corn, 61 percent; beef, 53 percent; wheat, 22 percent; wool, 16 percent; and mutton and lamb, 15 percent.

By the outbreak of World War II, Argentina was the world's leading producer and exporter of flaxseed; the leading exporter of beef, corn, oats, sunflower seed, and cattle hides and skins; the second ranking exporter of wheat (after Canada) and wool (after Australia). It was the second leading producing of beef and corn (after the United States in both cases) and of sunflower seed (after the Soviet Union); the third producer of wool (after Australia and the United States); the fourth producer of both mutton (after the United States, France and Germany); and the sixth producer of wheat and oats. (See tables 1, 2, and 3; fig. 4.)



* CROP YEARS ENDING IN MARCH
△ CALENDAR YEARS IMMEDIATELY FOLLOWING CROP YEARS

FIGURE 6.- Argentine corn acreage, production, and exports, 1921-46

Effect of Recent War Upon Farm Production and Trade

During World War II, the world market absorbed less than half the usual quantities of Argentine cereals, flaxseed, and wool, but it continued to absorb meats at prewar, and even higher, levels. By 1944 Argentine grain exports dropped to

TABLE 2. - *Wheat, corn, and flaxseed production and cattle numbers, by principal producing countries, averages 1930-39, annual 1941-45*

COMMODITIES AND COUNTRIES	AVERAGES		ANNUAL				
	1930-34	1935-39	1941	1942	1943	1944	1945
	1,000 bu.	*1,000 bu.*	*1,000 bu.*	*1,000 bu.*	*1,000 bu.*	*1,000 bu.*	*1,000 bu.*
Wheat:							
United States	732,527	758,623	943,127	974,176	841,023	1,072,177	1,108,224
Canada	348,560	312,399	314,825	556,684	284,460	416,635	318,512
Argentina	243,932	221,769	238,349	235,157	249,855	150,108	143,556
Australia	185,773	169,744	166,713	155,727	109,558	52,880	142,410
Corn:							
United States	2,286,584	2,315,539	2,675,790	3,131,518	3,034,354	3,203,310	2,880,933
Argentina	339,121	301,986	355,649	76,499	343,681	116,745	140,701
Brazil	215,364	215,161	208,720	205,122	219,465	190,798	224,538
Flaxseed:							
Argentina	74,346	59,571	62,989	53,067	61,926	30,967	37,955
Soviet Union	29,865	29,526	-	-	-	-	-
India	17,064	18,096	18,520	14,440	16,400	15,240	15,680
United States	11,512	10,991	32,285	41,053	51,946	23,135	34,557
	1,000 head	*1,000 head*	*1,000 head*	*1,000 head*	*1,000 head*	*1,000 head*	*1,000 head*[1]
Cattle:							
India	[2] [3] 198,474	[4] 205,863	-	-	-	[5] (200,000)	(200,000)
United States	[6] 66,897	66,814	71,755	76,025	81,204	85,334	85,573
Brazil	[7] 44,003	[4] 40,807	-	[8] 46,000	[8] 42,500	(42,000)	(42,000)
Argentina	[9] [4] 31,540	[9] [4] 33,762	[10] 33,750	31,460	(10)	(33,500)	34,010

[1] Preliminary.
[2] Data include buffaloes.
[3] December 31 (end-of-year estimates - October to December - included under following year for comparisons and totals).
[4] Less than 5-year average.
[5] Office estimate.
[6] All U. S. figures are for January 1.
[7] September.
[8] Unofficial estimate.
[9] July.
[10] September.

Compiled by Office of Foreign Agricultural Relations.

TABLE 3. - *Production of specified commodities in Argentina, averages 1921-34, annual 1941-45*

YEAR	WHEAT	CORN	OATS	FLAXSEED	SUNFLOWER SEED	CATTLE[1] SLAUGHTERED	BEEF & VEAL	SHEEP[1] SLAUGHTERED	MUTTON & LAMB	HOGS[2] SLAUGHTERED	PORK[3]
	1,000 bushels	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1.000 sh.tons*	*1,000 head*	*1,000 sh.tons*	*1,000 head*	*1.000 sh.tons*	*1.000 head*	*1,000 Sh.tons*
AVERAGE:											
1920-21/1924-25	196,386	209,150	53,340	49,344	[1]3	6,961	2,030	7,727	192	529	41
1925-26/1929-30	243,028	297,421	66,493	73,390	[4]1	7,389	2,125	8,148	172	786	55
1930-31/1934-35	243,932	339,121	64,597	74,346	[4]24	6,766	1,898	8,772	172	1,176	94
1935-36/1939-40	221,769	301,986	50,182	59,572	239	8,080	2,020	9,315	198	1,319	121
1940-41/1944-45	234,585	259,124	49,507	55,151	817	7,358	1,895	13,852	294	3,168	292
ANNUAL:											
1940-41	299,458	403,048	37,168	59,839	655	8,578	2,186	9,578	212	1,727	174
1941-42	238,349	355,649	31,002	62,989	739	7,700	1,951	13,926	313	2,461	243
1942-43	235,157	76,499	39,958	60,036	462	7,248	1,803	15,570	246	3,500	326
1943-44	249,855	343,681	63,713	61,926	1,142	7,018	1,836	16,167	364	4,452	426
1944-45	150,108	116,745	75,694	30,967	1,086	6,245	[5]1,700	14,021	[5]335	3,701	[5]290
AVERAGE:											
1920-21/1944-45	227,940	281,360	56,824	62,361	[6]528	7,311	1,994	9,563	206	1,396	121

[1] Includes farm slaughter.

[2] Excludes farm slaughter.

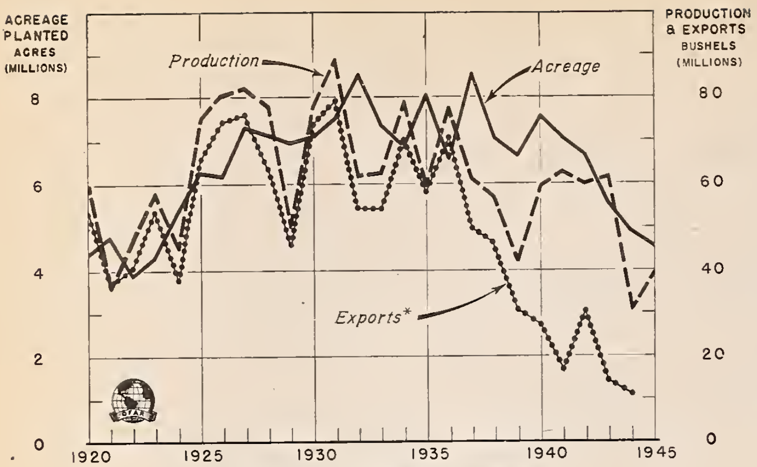
[3] Excludes meat from hogs slaughtered on farms.

[4] Seed exported and used industrially. Total production not available.

[5] Preliminary.

[6] Average 1936-45.

Compiled by Office of Foreign Agricultural Relations.



HARVEST GENERALLY COMPLETED IN DECEMBER OF CROP YEAR SHOWN
EXPORTS ARE FOR CALENDAR YEARS IMMEDIATELY FOLLOWING
* INCLUDING OIL EXPORTS IN SEED EQUIVALENT

FIGURE 7.- Argentine flaxseed acreage, production, and exports, 1920-45

60 percent of their average value during 1934-38, but exports of livestock products by then were 225 percent of prewar value *(10)*.

Despite a decline in volume, the value of Argentina's export trade increased during World War II because of higher prices; shifted in composition toward products of relatively higher value per ton, such as meats (especially frozen, boned meat), dairy products, dehydrated eggs, and vegetable oils; and away from wheat, corn, and oilseeds. When cereal exports decreased in tonnage, corn and vegetable oils were burned for power and heat, because coal and petroleum could not be imported.

Production of rice, oats, barley, sunflower seed, pork, lard, mutton, and lamb increased during the war. By its end, the nation was about self-sufficient in rice. Its dairy herds were enlarged, which gave a large volume of butter, cheese, and casein for export. Mutton and lamb exports were several times their prewar volumes, Argentina continued to be the world's leading producer and exporter of flaxseed. Prior to the war, oilseeds were exported, but a large oilseed-crushing industry was developed during the war. Thus, vegetable oils have been exported since the war ended, and little or no oilseed. Pork, lard, and poultry production increased greatly during the war, but high grain prices in 1946 sent the output downward.

The Export Pattern

Export trade is returning to something like the pattern that existed before the war, but with certain important and probably permanent shifts. Grain is tending to dominate foreign trade again. Corn was the most important export crop in the interwar years. It represented about one-fifth the value of all exports during 1935-39 and wheat just a little less.

Farming is the dominant economic enterprise in Argentina. Although interest in industrialization is increasing, farm products serve as the major raw materials of industry. Farm commodities accounted for about 94 percent of the nation's exports on a value basis from 1921 through 1944 (table 4).

The population of Argentina is small in relation to its agricultural capacity. The people are among the world's largest per capita consumers of beef and wheat; yet exports of grain and meat are large because of the relatively small size of the population. The grazing of cattle on alfalfa and natural forage, with no supplemental feeding of grain and protein meals, is another factor in low domestic consumption of feedstuffs and large exports. As a result, Argentina ranks as one of the leading exporters of many commodities. During the period 1921-45, 57 percent of the wheat, 58 of the corn, 43 of the oats, 78 of the flaxseed, 36 of the beef and veal, and 42 percent of the mutton and lamb, by volume, were exported (table 5).

The United States has regularly obtained from Argentina substantial quantities of flaxseed and linseed oil, hides and skins, wool, and canned beef to supplement domestic production. Imports of these products have fluctuated widely, varying with United States industrial activity and domestic farm output. Large quantities of corn have come from Argentina following years of severe drought, though the United States usually exports corn.

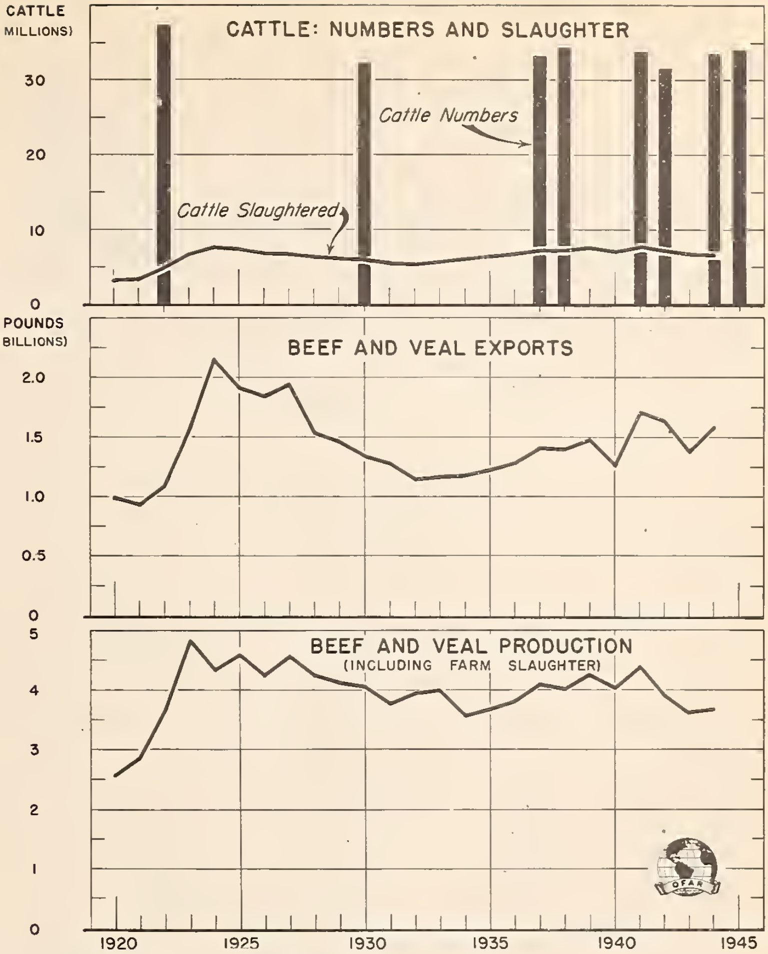


Figure 8.- Argentine cattle numbers, beef and veal production, and exports, 1920-45.

Farm Acreage and Land Use

Argentina has a total of 691 million acres of land. Thus, its area is about one-third that of the United States. About 10 percent of Argentina's area is under cultivation, 41 percent is pasture, 32 percent is forest, and the remainder is unsuited to farming, or is devoted to right-of-ways and cities. Virtually all productive land is now being cropped or used for pasture. The area devoted to crops, however, could probably be increased by about 28 million acres, since estimates indicate that about 10 percent of the pasture land is suitable for cultivation. The competition between crops and livestock will determine to a certain extent the ultimate use of this land. Some livestock producers do not care to grow crops. Thus, they hold all land for pasturage or rent portions suitable for cultivation.

Cattle and sheep production is mainly a grazing industry because of good year-round pasturage. Consequently, little grain is fed, except to hogs and poultry. In the cereal belt, from 50 to 80 percent of the land in most sectors is devoted to pas-

Table 4. - *Argentine farm exports as percentages of total exports, value basis, 1921-44*

YEARS	PERCENTAGE	YEARS	PERCENTAGE	YEARS	PERCENTAGE	YEARS	PERCENTAGE	YEARS	PERCENTAGE
1921	95.8	1926	95.8	1931	96.0	1936	95.6	1941	87.6
22	95.8	27	96.5	32	96.5	37	96.1	42	85.6
23	95.6	28	96.7	33	95.1	38	93.7	43	79.2
24	96.7	29	96.9	34	94.6	39	93.9	44	85.9
25	95.8	30	95.5	35	95.3	40	92.9	-	-
Average	95.9		96.3		95.5		94.4		84.6
24-year average, 1921-44									93.7

Compiled by Office of Foreign Agricultural Relations.

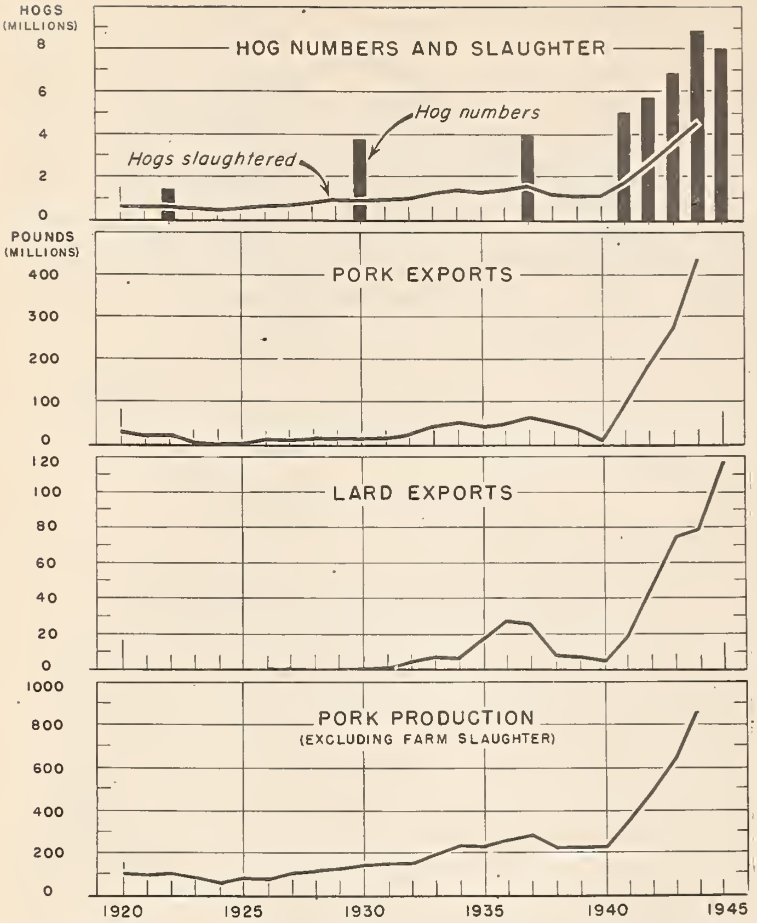


FIGURE 9.- Argentine hog numbers and pork and lard exports, 1920-45.

ture. In a small part of this belt, crop competition has reduced the pasture acreage to less than half the land area.

The total area under cultivation from 1920 through 1945 ranged from 55 to 70 million acres (table 6). The wheat acreage has gradually decreased since the late 1920's, and the acreage in oats, rye, and sunflower seed has increased since the early 1920's. Corn acreage reached a peak in 1939-40 and declined thereafter. About one-fourth the total cultivated area generally is planted to wheat, one-fifth to corn, and one-tenth to flax. Consequently, a little over one-half the cultivated area is planted to the three chief export crops. An additional one-fifth of the cultivated area is in alfalfa and other forages planted for pasture.

Farm Ownership and Tenancy

Within a few decades after Argentina gained its independence in 1810, most of the land was acquired by influential families. Some gained it by grants, but others came into ownership by buying up land many years ago - 50 or more - when it was cheap. The increase in land values has made descendants of the original owners wealthy. Because alternative investments in nonfarming fields have not been very attractive, landowners have retained their properties from generation to generation, not wholly intact, but nevertheless in substantial extent.

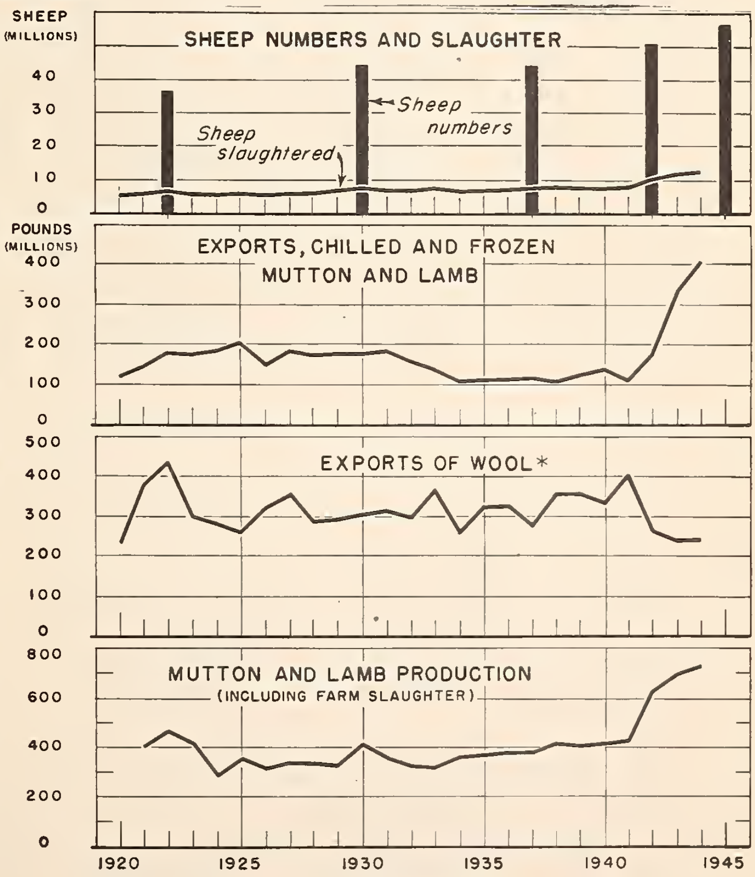
A large part of the public domain was distributed by grants or sold prior to the adoption of governmental measures designed to reserve portions for small landholders. The best land was acquired by the holders of large tracts so that later, when the Government attempted to help the immigrant who wanted to settle on a small one-man-farm tract, only poor land in isolated areas was available. One might say that the immigrant arrived too late to acquire the better land.

When large-scale immigration began in the latter half of the nineteenth century, the remaining land was available only at inflated prices beyond the means of the average immigrant. The large landowners refused to divide their estates but made land available to immigrants on a share-crop, lease, or rental basis, which is the prevailing system of land tenure today. Consequently, a major share of the crop and pasture land belongs to a small group, many of whom are absentee owners.

About 38 percent of all farms were owner-operated when the last census was made in 1937, and the others were operated by tenants, share croppers, or farm managers. In the vineyard and orchard regions, ownership is high. In the corn and flaxseed region, on the other hand, two-thirds of the farms are operated by nonowners.

There is a tendency for the number of small farms to increase, most of which are privately owned. The rate of taxation of large landholdings has been increased; rents have been reduced 20 percent by Executive decree; minimum wages have been fixed; and the Government's new Five-Year Plan promotes farming on a small scale under private ownership. The legislature of Buenos Aires Province has passed a graduated land tax that places a heavy burden on holdings exceeding 24,710 acres, and extra taxes on absentee owners have been considered.

Most of the large estates are located on the Pampa; hence, it is the center of tenancy. The large landowners are most frequently cattle raisers. They are known as estancieros and their farms as estancias. Grain farmers, in contrast, are known as chacareros, and their farms as chacras. In the diversified agricultural areas of Tucumán and Mendoza in the west and Rio Negro in the south, properties are small and privately owned. The large landholding pattern prevails in the sugar, cotton, and yerba maté cultivations in the north.



* IN TERMS OF GREASE WOOL

FIGURE 10.-Argentine sheep numbers; mutton, lamb, and wool exports, and mutton and lamb production, 1920-45.

Where tenancy is prevalent, tenants hold land either on a cash-rent or share-crop basis. Cash rent is the most characteristic arrangement in the cattle-raising areas, and share cropping is prevalent in the cereal-growing belt.

The scale of enterprise of tenant farmers varies widely. Many are large-scale operators who own their machinery and equipment, employ farm labor, and sublease part of their holding. Some machinery is rented by the day from concerns that specialize in renting implements. The poorest tenants, those with no working capital, are merely share croppers. The majority, however, operate family-sized farms, and they account for the bulk of the grain production.

Conditions of tenancy are contractually defined

TABLE 5. - *Argentine exports*[1] *as percentages of production, averages 1921-45, annual 1941-45*

YEARS[2]	WHEAT	CORN	OATS	FLAXSEED	SUNFLOWER SEED	BEEF AND VEAL	MUTTON AND LAMB	PORK
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Average:								
1921-25	65.1	60.2	59.8	90.3	(3)	37.7	45.8	12.2
1926-30	64.6	77.7	47.6	89.1	(3)	38.2	50.0	12.7
1931-35	61.1	79.8	57.0	89.5	(3)	31.6	40.7	19.1
1936-40	54.4	65.7	42.2	86.1	4.2	33.9	28.8	17.4
1941-45	39.7	8.6	9.4	36.3	4.0	37.6	44.8	41.3
Annual:								
1941	30.1	5.4	19.6	45.9	2.9	39.1	25.9	26.4
1942	34.8	2.4	3.0	26.9	5.3	42.1	28.1	38.3
1943	32.4	9.8	10.2	50.3	4.8	38.4	67.5	41.4
1944	38.7	6.3	6.9	23.0	3.5	43.1	56.3	51.2
1945	62.6	19.3	7.5	35.6	3.7	25.4	46.3	49.3
Average:								
1921-45	57.0	58.4	43.2	78.3	4.1	35.8	42.0	20.5

[1] Exports include carry-over.

[2] Exports during the calendar year are expressed as a percentage of production during the crop year ending in that calendar year. As an example, exports, including carry-over, in calendar year 1945, are expressed as a percentage of production from the 1944-45 crop year.

[3] Export data for these years are considered to be production.

Compiled by Office of Foreign Agricultural Relations.

TABLE 6.- *Acreage, planted and harvested, of specified crops and total cultivated in Argentina, averages 1921-45, annual 1941-45*

[Million acres]

YEARS	WHEAT		CORN		OATS		BARLEY	
	PLANTED	HARVESTED	PLANTED	HARVESTED	PLANTED	HARVESTED	PLANTED	HARVESTED
Average:								
1920-21/1924-25	16.1	15.3	8.2	7.8	2.5	(1)	0.7	(1)
1925-26/1929-30	20.5	19.0	11.5	9.4	3.4	(1)	1.2	(1)
1930-31/1934-35	19.4	17.7	15.2	10.9	3.6	(1)	1.6	(1)
1935-36/1939-40	18.7	15.9	16.0	10.8	3.6	2.0	1.9	1.3
1940-41/1944-45	16.9	13.8	11.7	8.2	4.5	1.8	1.8	1.1
Annual:								
1940-41	17.5	16.6	15.1	12.2	3.9	1.4	2.1	1.5
1941-42	18.0	14.7	12.4	10.1	3.5	1.2	2.0	.8
1942-43	16.7	12.0	10.2	4.4	4.8	1.5	1.4	.8
1943-44	16.8	14.8	10.9	9.1	5.3	2.6	1.8	1.3
1944-45	15.4	10.8	9.9	5.1	5.0	2.5	1.9	1.0
Average:								
1920-21/1944-45	18.3	16.3	12.5	9.4	3.5	[2] 1.9	1.4	[2] 1.2
	RYE		FLAXSEED		SUNFLOWER SEED		SUGARCANE	
Average:								
1920-21/1924-25	.3	(1)	4.9	(1)	(3)	(3)	.2	(1)
1925-26/1929-30	.9	(1)	6.9	(1)	(3)	(3)	.3	(1)
1930-31/1934-35	1.6	(1)	7.7	(1)	(4) .2	(1)	.4	(1)
1935-36/1939-40	2.5	1.1	7.3	6.1	.7	.6	.4	(1)
1940-41/1944-45	3.8	.9	6.1	5.1	2.5	2.0	.5	(1)
Annual:								
1940-41	3.3	.7	7.1	6.0	1.4	1.3	.5	(1)
1941-42	2.7	.5	6.7	5.7	1.9	1.7	.5	(1)
1942-43	4.3	.6	6.1	5.6	1.7	1.3	.5	(1)
1943-44	4.5	2.0	5.6	5.0	3.9	3.1	.6	(1)
1944-45	4.0	.8	4.9	3.1	3.7	2.8	.6	(1)
Average:								
1920-21/1944-45	1.8	[2] 1.0	6.6	[2] 5.6	[5] 1.4	[2] 1.3	.4	(1)
	COTTON		ALFALFA[6]		FRUITS[7]		TOTAL CULTIVATED	
Average:								
1920-21/1924-25	.1	(1)	19.3	(1)	2.7	(1)	55.0	(1)
1925-26/1929-30	.2	(1)	14.2	(1)	3.1	(1)	62.2	(1)
1930-31/1934-35	.4	(1)	13.8	(1)	2.6	(1)	66.9	(1)
1935-36/1939-40	1.0	.8	13.4	(1)	2.9	(1)	68.4	[8] 38.6
1940-41/1944-45	.9	.8	14.2	(1)	2.6	(1)	65.0	[8] 33.7
Annual:								
1940-41	.8	.7	13.8	(1)	3.2	(1)	68.7	[8] 40.4
1941-42	.8	.8	14.7	(1)	3.2	(1)	66.4	[8] 35.5
1942-43	.9	.8	14.5	(1)	.9	(1)	61.9	[8] 27.0
1943-44	1.0	.9	14.0	(1)	1.3	(1)	63.0	[8] 38.8
1944-45	.9	.9	14.0	(1)	4.6	(1)	65.0	[8] 27.0
Average:								
1920-21/1944-45	.5	-	15.0	(1)	2.8	(1)	63.5	[8] 36.2

[1] Data not available.
[2] Average 1936-45.
[3] Acreage insignificant.
[4] Less than a 5-year average; data for sunflower acreage not available prior to 1933-34.
[5] Average 1934-35.
[6] Includes other forage crops.
[7] Includes vineyards and other crops.
[8] Total harvested acreage does not include sugar, forage crops, or fruits and vineyards.

by law, but, according to the last census, only about half the country's tenants operated under contract. Where contracts are used, they stipulate the type of crop or crops that may be devoted to stock, the fields that may be worked, and the amount of rent to be paid. By law, tenancy contracts are for a minimum of 5 years. Rents vary according to productive zones.

If an estancia owner desires to cultivate a portion of his land, contracts are let to tenant farmers, because the livestock farmer generally does not care to grow crops. Estancias generally vary in size from about 6,000 to 12,000 acres, although in Buenos Aires Province 50 exceed 75,000 acres. Grain farms are generally much smaller. Should a large estanciero engage in cereal production on his own account, he would require a large number of laborers. This would make administration problems quite complex, and, as a result, owners and managers tend to practice tenancy when the land is put under the plow.

Extensive rather than intensive farming is practiced on many of the large estancias. Some are so vast that no effort is made to utilize portions of them. Other portions are not utilized to their full productive capacity. Cattle may be grazed over limited areas and possibly fed more supplementary grain and protein meal as compensation. Much of the land now in pasture may be cropped, since it is suitable for this usage. More poultry, hogs, and dairy cattle might be added to diversify production and utilize grain. Thus, farm production might be increased by applying more labor and capital per acre. To do this, the estancieros might hire more laborers and farm their property more intensively, rent more of their idle land, or sell portions of their landholdings so that independent small operators could cultivate it.

Most of the estancieros do not want to be burdened by intensive-farm management or to assume the additional capital risk involved. Intensive operations would necessitate the maintenance of large labor forces, the upkeep of a great quantity of implements and equipment, and the establishment of an efficient management staff. Yet they wish to retain their large landholdings, which afford social prominence, serve as a source of family pride, and impart a degree of aristocracy. Livestock production is better suited to their operations than crop production, and the income derived from livestock is generally ample. In recent years, however, many have put as much as 10 percent of their grazing land in crops. Some have produced crops with their own labor crews, but many contract their plowing and harvesting. By renting portions of their land to tenants, some estancieros have increased the land's output much as if they had operated on an intensive rather than an extensive basis.

Availability of Land

If Argentina offered better opportunity for landownership, more immigrants would arrive, and fewer would leave. For decades, the majority of immigrants have been forced to become tenants or farm laborers, because land could not be purchased. This is one reason why about one-half the immigrants leave (table 7).

Unable to acquire land, some immigrants settle in the city. Thus, Argentina has a large urban population, and large areas of land are not touched by the plow. For decades, Argentine statesmen have toyed with the idea of setting a limit to the size of farming estates, of subdividing the larger holdings, and establishing farmers on the new units. Several laws have been proposed, and one has been passed recently which, if enforced, could make subdivision of the estates compulsory. It provides that land not worked must be sold. Government banks will lend money to the buyers. Expropriation has not been undertaken, although the law has been in effect for more than a year. Claims are made that sufficient funds were not set aside and that action will be taken later. The present administration maintains that the soil ought to belong to the person who works it, that it should cease to be a means of investment, and that it should become a basis for greater employment. In April 1947 the Ministry of Foreign Affairs and Worship announced that the Director of the Central Bank had decided that the state should expropriate properties leased at high rates.

For a number of years, about the only land to which ownership could be acquired has been in the tropical northern area and along the semiarid western margin of the Pampa. There are a number of objections to settling in each.

Efforts have been made to grow wheat by dry-land-farming methods on the western margin of the Pampa where rainfall is highly variable from year to year and always scant. The railroads have attempted to encourage settlement throughout large areas in an effort to increase their freight traffic. Except for land adjacent to the railroads, however, that with deficient rainfall and no irrigation facilities has not been settled.

Most of the land remaining in the Argentine public domain, and therefore subject to settlement, is located in the Government Territories, especially in Misiones, Chaco, and Formosa. This land is far removed from the centers of population. Communication is maintained by means of steamer, along the Paraná and Paraguay Rivers, and by several rail lines which extend into the region.

The desirable land along the rivers and railways has been acquired by private owners, most of whom hold large tracts. There are few roads in these Territories. Consequently, land not adjacent to railways and rivers is inaccessible and not readily subject to settlement. Land in the public domain may be leased for crop and livestock production at rates set by the Ministry of Agriculture. Or, it may be homesteaded if a settler resides on the land for a prescribed period, makes certain improvements annually, and pays a low price per acre which is set by the Ministry of Agriculture.

TABLE 7. - *Average annual Argentine immigration and emigration, 1861-1945*[1]

PERIOD	IMMIGRATION	EMIGRATION	NET BALANCE
	Numbers	*Numbers*	*Numbers*
Average:			
1861-65	9,375	4,998	4,377
1866-70	22,539	11,597	10,942
1871-75	29,739	18,778	10,961
1876-80	22,438	16,375	6,063
1881-85	51,037	13,927	37,110
1886-90	117,187	26,764	90,423
1891-95	47,250	33,861	13,389
1896-1900	82,415	31,828	50,587
1901-05	105,206	43,131	62,075
1906-10	247,615	85,645	161,970
1911-15	202,367	137,588	64,779
1916-20	38,617	49,577	-10,960
1921-25	142,958	48,167	94,791
1926-30	146,254	65,032	81,222
1931-35	40,943	40,850	-7
1936-40	31,669	15,104	16,565
1941-45	2,197	1,336	861

[1] These figures include persons coming and going by ocean ship only. Included are 2nd- and 3rd-class passengers, since no record was kept during most of the period on 1st-class passengers by the Argentine immigration officials. First-class passengers are assumed to be chiefly tourists.

Compiled by Office of Foreign Agricultural Relations.

Small acreages are difficult to acquire in the Pampa region. When land has become available, frequently it has been bought by corporations for additions to their extensive holdings. In recent years, however, Buenos Aires Province has organized a Colonization Institute which has bought large properties, subdivided them into family-size farms, and offered them on long-time credit. The Federal Government has done likewise, operating through the National Mortgage Bank.

Comparative Cost of Production

The farmer in Argentina has certain advantages over the farmer in the United States and Europe. Were this not true, he could hardly afford to ship so large a proportion of his output to such distant markets. He has the advantage of a large acreage of good land at relatively lower cost per acre, cheaper labor, probably cheaper power, and a short haul to seaboard, especially important to the exporter. Basic studies of the comparative cost of production of farm commodities in Argentina and other countries have not been undertaken. Therefore, few definite deductions can be made.

The land of the Pampa, where the crops and pasture grasses are grown, is uniformly fertile. Fertilizers are rarely used. Crop-production costs have been so moderate that the Argentine as yet has not resorted to any great extent to research, soil conservation, or hybrid corn. Later on, he may use these means to stimulate yields. The chief hazards are foot-and mouth disease for his cattle and locusts for his crops. He and his Government spend money in combatting each. The average value of his farm land is probably less than the average value of comparable land in the United States and Europe (table 8). His capital investment as a rule is less. Land and cattle taxes have been exceedingly low in Argentina. They are low today, but the Government is extracting a large margin of profit on all foreign shipments through its export-sales monopoly, which, in effect, is equivalent to a heavy tax. Production costs have been increased somewhat also through the enactment of social laws which benefit the farm laborer.

A tenant gives the landowner a fixed share of his crop or he pays cash rent. According to the 1937 census, 46,000 tenants, or 22 percent of the total, paid cash rent. About 56 percent of these paid an annual rental of less than $2.67 an acre; 38 percent paid from $2.67 to $6.68; and 6 percent paid in excess of $6.68 an acre.

Farm laborers are plentiful in Argentina and wages are generally low. Labor is used efficiently, which effects further savings. Laborers are employed by both the estates and tenants. Many of the tenants are large-scale operators and not simply one-horse farmers as is usually the case of the United States tenant. Laborers consist of native-born peons, immigrant peasants - largely Italians - and Indians. The Indians work at harvesttime in the sugarcane fields of Tucumán and the cotton fields of the Chaco. Otherwise they are engaged in quebracho and yerba-maté operations.

For several decades, minimum wages have been decreed by law. The minimum generally is regarded as the maximum. It is difficult to ascertain the exact wages paid, because cash wages are often low. The value of shelter, use of a horse, garden space, and of other privileges and allowances is deducted. Low wages do not necessarily signify a lower standard of living in Argentina than elsewhere. The last wage statute was one decreed in October 1944, which established a scale of minimum wages, working conditions, and living standards for all farm laborers, except harvest hands. For the Provinces of Buenos Aires, Santa Fé, and Tucumán, the minimum was set at about 80 pesos ($24. U.S.) per month when food and lodging were included. Maximum hours were not established, but a Sunday holiday, prescribed periods for meals, and a week's vacation annually were specified. Dismissal pay was set at the rate of one-half a month's wages for each year of service.

One study *(1)* indicates that during a period just before the outbreak of World War II prices of most food products were lower in Argentina than in the United States, Great Britain, and Germany. Beef was substantially cheaper, but sugar cost about the same or was higher than in the United States and England. Wool is cheaper in Argentina than abroad, but cotton and cotton textiles are high and, in some cases, higher. Chemicals, coal, steel and copper articles, machinery, and other imports are higher in Argentina. The position of the Argentine farmer is summarized *(1, p. 76)* as follows:

> The absolute buying power of the agricultural laborer in Argentina is higher than in the United States when expressed in terms of bread, meat, milk, cheese, or oranges. It is somewhat lower in terms of butter, eggs and sugar, but is much lower than the United States farm laborer in terms of textiles, chemicals, fuel, metals and machinery. In Germany the buying power of agricultural labor was lower than in Argentina for all the foods listed except potatoes, but was higher in terms of most of the manufactured goods. The English agricultural laborer, to the contrary, could buy more than the Argentine in terms of any article listed. . .except milk, but the differences in industrial goods were not so great as between Argentina and the United States.

The Pampa region, like our Corn and Wheat Belt, is well-suited to tillage and harvest by large machines. Thus, they are used extensively, and the tenant farmer - whether a small or large operator - may either rent them or secure their use by contract. The use of gang plows, multiple-row planters and cultivators, and modern harvesting machines reduce the labor requirements.

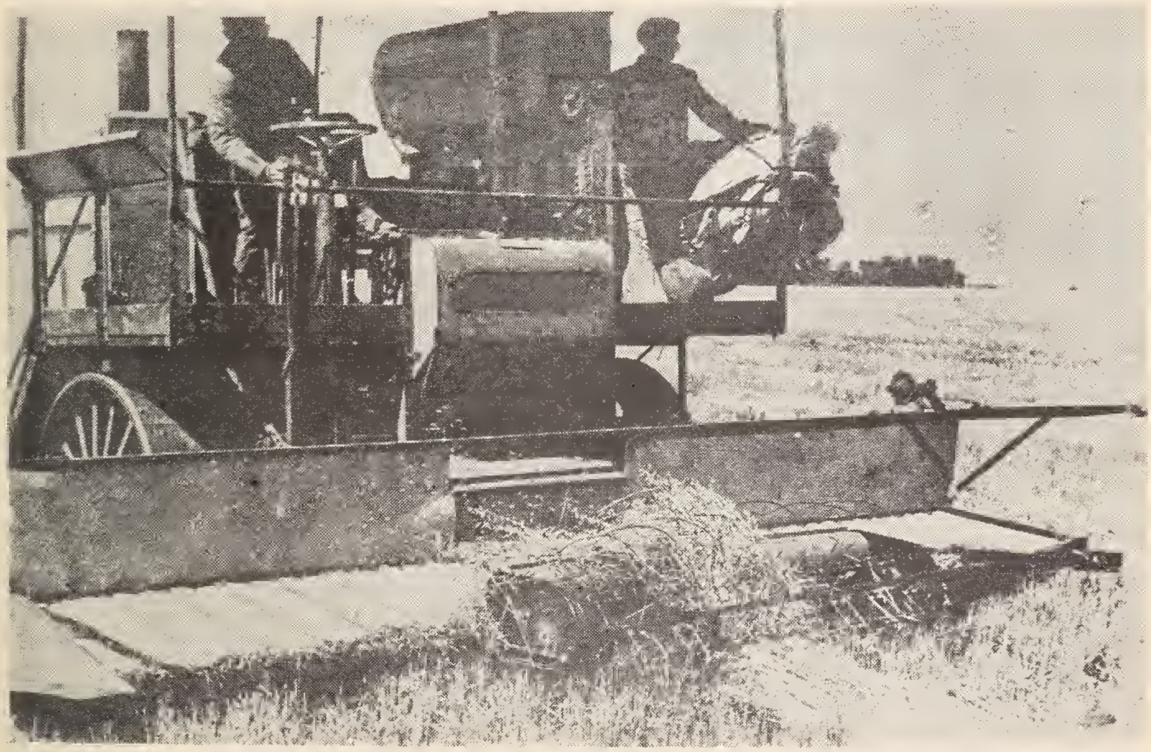


FIGURE 11.-Harvesting oats on the Pampa.

TABLE 8. - *Average price received in Argentina per acre of rural properties, by specified Provinces, 1904-37* [1] [2]

YEARS	BUENOS AIRES	CORDOBA	ENTRE RIOS	SANTA FE	LA PAMPA	OTHERS
	U.S. dollars per acre	*U.S. dollars per acre*	*U.S. dollars per acre*	*U.S. dollars per acre*	*U.S. dollars per acre*	*U.S.dollars per acre*
1904	7.03	4.37	3.74	1.95	1.86	0.54
05	9.74	4.86	4.96	2.61	2.37	.87
06	12.37	5.56	6.72	7.18	2.63	.91
07	22.12	6.52	6.70	6.50	1.30	.74
08	14.39	8.36	9.04	7.65	2.04	.77
09	18,19	5.00	9.48	9.25	5.29	1.05
1910	24.06	10.46	7.94	9.09	4.71	1.54
11	21.08	10.47	10.98	10.96	5.55	2.50
12	31.96	18.92	13.50	9.62	6.50	2.41
13	26.32	11.68	11.51	17.29	5.85	2.19
14	28.17	12.93	12.34	17.03	4.38	1.91
15	22.33	12.35	11.74	13.09	5.24	1.49
16	24.71	14.25	11.95	15.98	5.16	1.50
17	25.95	12.86	11.58	13.53	4.15	2.05
18	32.13	14.65	13.55	19.11	5.89	1.92
19	38.81	15.66	15.81	17.40	8.74	2.32
1920	30.80	15.22	16.56	18.86	6.71	2.34
21	33.44	13.59	29.23	15.35	6.87	2.17
22	35.67	17.30	14.96	4.88	7.84	2.37
23	36.76	16.32	14.59	11.30	6.24	2.61
24	37.05	16.87	17.83	17.64	8.14	2.25
25	48.15	19.99	20.84	27.73	8.13	3.07
26	37.21	21.03	25.06	22.23	6.49	2.43
27	40.70	23.36	23.16	23.91	5.16	3.72
28	44.85	22.34	25.14	32.81	7.02	3.45
29	44.04	30.13	17.32	31.31	8.07	3.40
1930	39.04	-	22.53	29.74	5.47	2.34
31	28.84	-	15.15	22.74	4.95	2.83
32	22.88	-	10.48	17.28	3.13	2.46
33	24.71	-	12.50	16.40	4.63	1.84
34	24.92	-	11.10	21.24	3.67	3.16
35	25.38	10.36	12.17	17.10	3.13	2.35
36	23.93	11.80	11.51	17.50	3.98	2.10
37	30.41	14.59	10.85	16.53	3.33	2.01

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[1] Although figures are not available, it is generally recognized that land values increased sharply during World War II.

[2] Adapted by the Office of Foreign Agricultural Relations from: *Oscilaciones de la Producción Ganadera Argentina*, by Dr. P. Napoleón Pérez, Facultad de Ciencias Económicas, Comerciales y Políticas.

While we have largely shifted to mechanical traction, the Argentine farmer continues to use horse traction primarily. This has been to his advantage, because horses are numerous, require little feed other than pasturage, demand little care, and have no shelter. Horse power probably is less expensive in Argentina than mechanical power in the United States, although an actual mathematical comparison to verify this would be difficult.

Tractors must be imported and cost about half again as much as the United States farmer pays for them. In 1939, the freight charge to Argentina amounted to from 6 to 10 percent of the United States wholesale price of farm implements. There is no import duty on such items, but shipment generally involves additional handling charges, commissions, etc., which substantially increase prices.

Argentine freight rates on farm commodities on a ton-mile basis are lower than United States rates for comparable distances. This is true, although coal generally costs about 60 percent more in Argentina than in the United States. Furthermore, the short land haul in Argentina contributes to low freight rates.

NATURAL FARMING REGIONS

Argentina may be subdivided into several natural regions (fig. 13). The most important is the Pampa, which is devoted to grain, oilseed, alfalfa, and livestock production. In the south is the semiarid and cool Patagonian region, where sheep grazing is the principal industry. In the west is the arid western shrub and Andean region, where grapes, fruit, and sugarcane are grown in small irrigated oases in the valleys and foothills east of the Andes. In the northeast, between the Paraná and Uruguay Rivers, is Mesopotamia. Sheep and cattle grazing and oilseed and rice production are its chief industries. Directly north of the Pampa is the Chaco where cotton is the chief product.

The Pampa

The level treeless, grassy plain known as the Pampa covers almost a fourth of Argentina. (See Pampa prairie, fig. 13.) It contains about 80 percent of the nation's total cultivated land. The central portion has rich soils, rated among the world's best for agriculture. Consequently, it embraces the corn, wheat, and cattle belts. These belts cover an area of rectangular shape, 620 miles north and south and 375

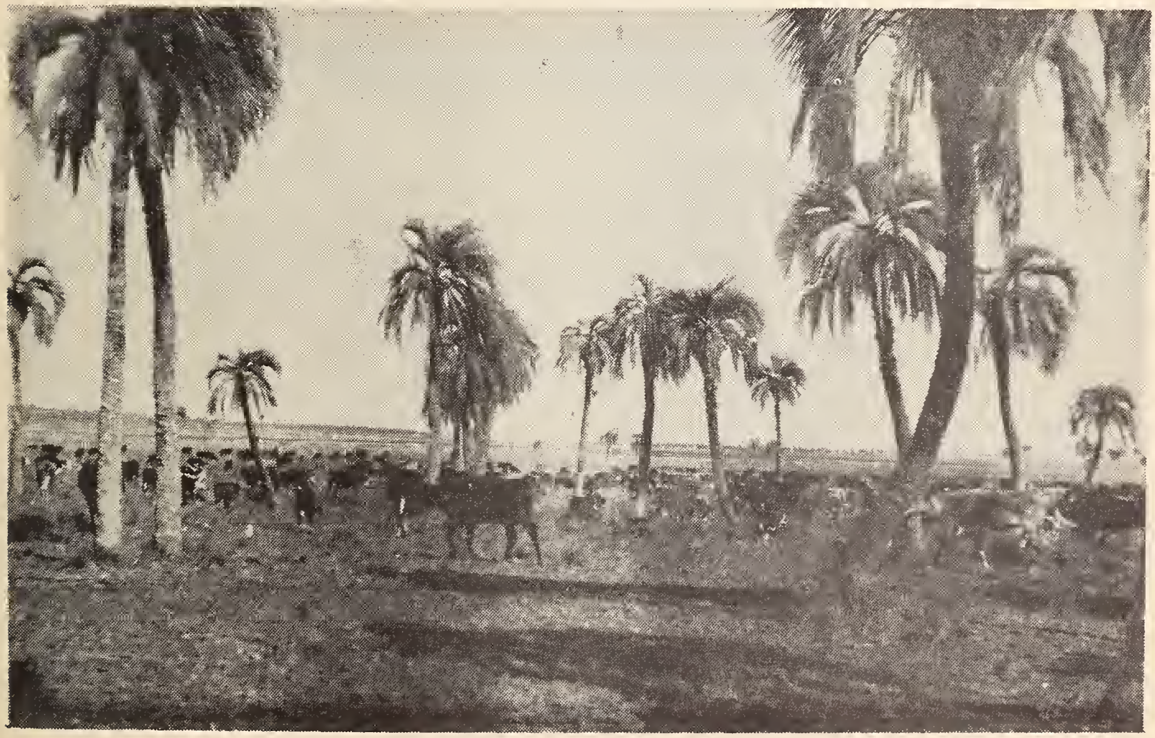

FIGURE 12.- Cattle on range in the Chaco region.

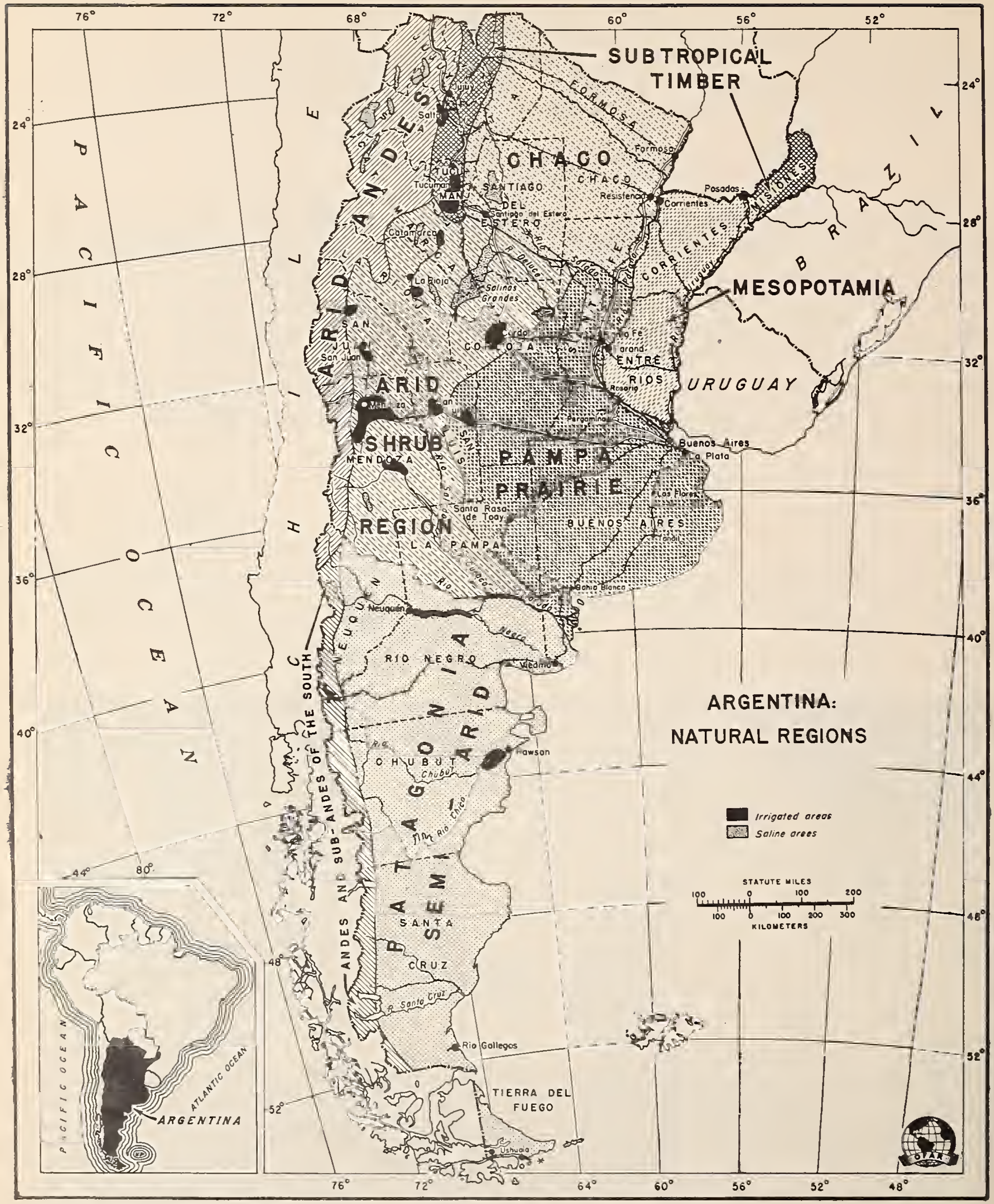

FIGURE 13.- Physical map of Argentina showing the major natural regions.

miles east and west. The region which they cover compares in size with the combined area of Illinois, Iowa, and Missouri. The Pampa occupies a similar relative latitudinal position as the grain and livestock belt of the United States (fig. 2). Almost

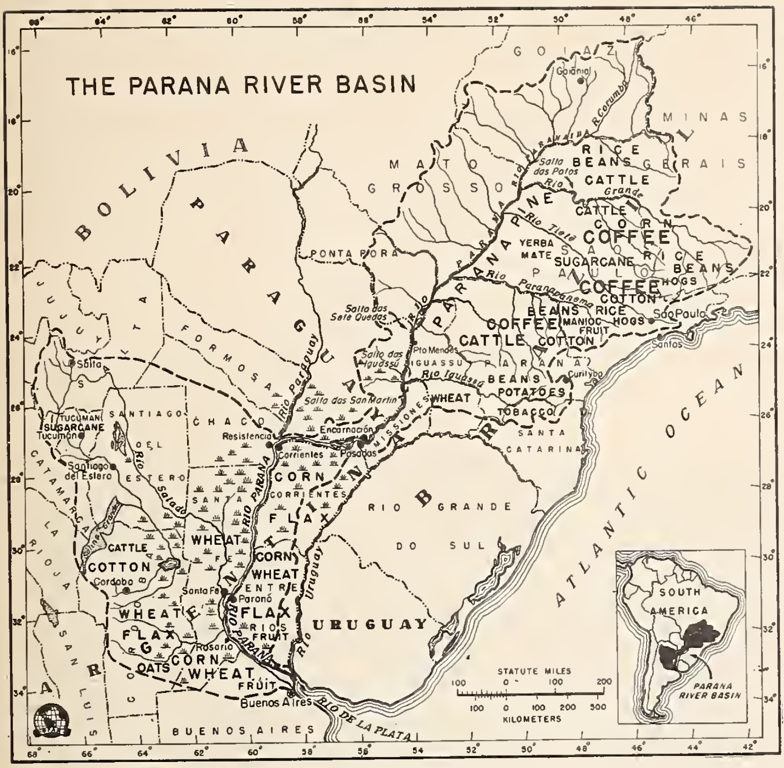

FIGURE 14.- The area located between the Paraná and Uruguay Rivers, embracing the Provinces of Entre Rios, Corrientes, and Misiones, is known as Mesopotamia.

the entire area is very gently undulating - Pampa is Spanish for prairie - and the hills in one or two places are landmarks. Trees and wooded lots are confined to parks, lanes, and rows of trees set out along boundary lines. Except for comparatively small areas of wet and swampy lands, almost the entire region is tillable.

One of the most distinctive features of the Pampa is the great variation, considering the size of the area, in the amount and seasonal distribution of rainfall. The annual precipitation ranges from 18 inches on the western edge to more than 40 inches in the Province of Entre Rios on the eastern side, a distance of about 360 miles (fig. 3). In the United States similar, though less extreme, variations occur in Kansas.

The cereal and livestock region is also characterized by a wide range in temperature. As a result, cotton is grown in the northern and oats and barley in the southern parts of the belt. The corn acreage is concentrated on an area of fertile black silt soil, 2 feet in depth, overlying a 6-foot stratum of brown subsoil which, although highly desirable for corn, is considered not so well adapted to wheat. To the north of this, the soils certain more clay and are less friable but nevertheless are fertile and productive. To the west and southwest in the Province of Córdoba, the soils are lighter in texture and color - in some places even sandy - and lack the fertility and capacity for the almost-continuous grain cropping practiced on the two previously mentioned soils. To the southwest, in the Province of Buenos Aires and in the Territory of La Pampa, the soils are progressively more sandy and poorer. It the eastern part of the Province of Buenos Aires, there are low, poorly drained soils and, in the south, black prairie soils, impaired in many places by nearness to the surface of underlying limestone rock.

There are several crop hazards in the Pampa. Danger of drought is frequent, particularly along the western boundary, where slight fluctuations in the low rainfall often prove disastrous. Droughts cause great variation in crop yields and damage pastures. Late spring frosts commonly occur. Hot northern winds blow at times with damaging effect upon crops. Locusts seriously damage green crops - particularly corn - in the northern half of the country. A special Government organization stands ready to combat them. They frequently reduce some crops by 10 to 25 percent, though they are not prevalent every year. When drought and locusts prevail simultaneously, harvests may be reduced as much as two-thirds. The disparity between acreage and production shown on the accompanying corn, wheat, and flaxseed figures is chiefly the cumulative effect of these various crop hazards upon yields. Livestock production is affected to a less degree by such influences upon pasturage and by availability of feed grains and roughages.

The Pampa is served by a great network of railroads. Most farms are no more than 35 or 40 miles from some line. Produce is carried on large wagons or trucks from farm to railroad, usually by way of private roads, which are simply fenced-in lanes, often too rough for trucks, leading from the estancia headquarters out to public roads of dirt and gravel. Some estancias have extended light tracks from the nearest railroad to the ranch for less outlay than the cost of an improved road.

The chief ports serving the Pampa are Buenos Aires, La Plata, Rosario, and Bahía Blanca. Buenos Aires is the most important importing and exporting center. La Plata, located some 40 miles southeast of Buenos Aires near the river of the same name, is one of the leading meat-packing centers of South America. Great quantities of meat products and grain are exported to Europe and England from La Plata. Rosario, located on the Paraná River some 200 miles upstream from Buenos Aires, is the nation's chief grain port. Eight railways enter the city from different directions and mainly from the westward-lying grain fields. Bahía Blanca is located on the Atlantic at the southern margin of the Pampa. Railways move large quantities of wheat from the southern Pampa to Bahía Blanca for export.

Mesopotamia

The area located between the Paraná and Uruguay Rivers and embracing the Provinces of Entre Rios, Corrientes, and Misiones is called Mesopotamia (figs. 13, and 14). The relief of the southern portion of this area resembles that of the Pampean plain, but it is lower and much of it subject to flooding. Toward the north, Mesopotamia progressively becomes gently undulating, then rolling with interspersed swamps, and finally rugged and hilly. Annual rainfall varies from about 40 inches in the south to 68 inches in the north.

Mesopotamia is not extensively developed. Much of it is unsettled. Most of the Indians in the country are located here and in the adjacent Chaco Territory. Grazing and cultivating are expanding in the south, where sheep and cattle raising and the growing of peanuts, corn, wheat, flaxseed, sugarcane, and yerba maté are the chief enterprises.

The Chaco

The subtropical plain of the north, which is low lying, swampy, and warm, and which embraces the territories of Chaco and Formosa, constitutes the Chaco region (fig. 13). This is one of the least developed areas of the country. Precipitation is heavy in summer, at which time inundation and swampy conditions are prevalent. On the other hand, the winters are frequently so dry that it is difficult to obtain a supply of fresh water. In the western part of the region it is impossible to strike potable water underground even at great depths, for it tends to be saline. Tropical insects and diseases are prevalent.

The Argentine Chaco, like the contiguous land in Paraguay, is low lying, open-savanna country with infrequent slight rises, which afford refuge for animals and stock in times of high water. It supports a variety of types of vegetation, including growths of scrubby bush over large areas, patches and strips of tall savanna grasses, palm forests, swamps, and deciduous forests. In the winter - especially in June, July, and August - a pronounced period of drought occurs each year. In the summer, human activity is depressed by the prevailing hot northerly winds. Only the wind from the south gives relief.

The quebracho forests of the Chaco provide the chief export (fig. 15). The quebracho tree thrives best along the rivers where the subsurface water is saline. A cotton belt, consisting largely of small farms, is located in the southern part, chiefly between Resistencia and Sáenz Peña. This is Argentina's major source of cotton and cottonseed oil. Because of serious damage inflicted by locusts, boll weevils, ants, leaf worms, and wilt, only about three-quarters of the planted area is harvested from year to year. A good many cattle are raised, but insects, disease, and winter drought hinder production.

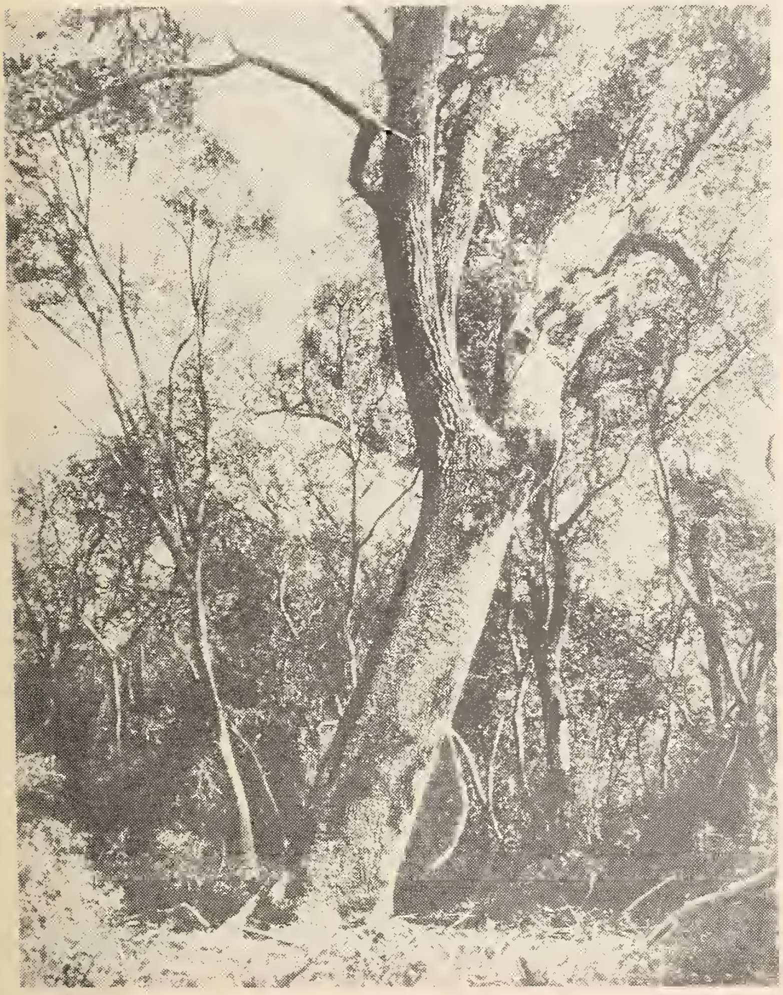

FIGURE 15.- The red quebracho is an important source of tannin in Argentina.

Oases, Arid Plains, and Mountains of the West

The extensive Andean region of northwestern Argentina is so arid that cultivation is impossible without irrigation. (See Arid Andes and Arid Shrub Region, fig. 13.) This area is similar to the arid west of the United States. Part of it lies in the rain shadow of the Andes, and some is in the high Andes proper. There are, however, a number of irrigated oases along the river valleys in the piedmont section that have a high agricultural productivity (irrigated areas are indicated in black on fig. 13). Irrigation water is derived chiefly from mountain streams. Large irrigation projects have been financed in some places by the Government, and in others farmers irrigate as best they can individually. About 2 million acres, representing only a small portion of the dry region, are irrigated and cultivated. Further expansion of irrigation is now hindered in most areas by lack of water. However, large additional areas may be irrigated as a result of dam and reclamation projects included in the Government's Five-Year Plan.

The oases are on alluvial fans. The streams flowing through them originate in the Andes. Heavy loads of sediment which are carried by them are deposited on the desert plains forming the alluvial fans. Supplied with water diverted from the streams, the fans have been developed into green production areas on the otherwise barren desert. The water supply is not stable because of the variability in the depth of the snowfields atop the Andes. Diversion dams have been built in an effort to overcome any deficiency. Nevertheless, in some years sufficient water is not stored to insure an adequate supply throughout the growing season. This constitutes a production hazard. Another is hail. The crops of the oases are often damaged by severe hailstorms.

The irrigated oases, forming a belt that extends through some 15 degrees of latitude, permit a variety of crops to be grown. Sugarcane predominates in the north in the environs of Tucumán. A variety of crops are found in the central zone, and vegetables and fruits, especially grapes, predominate in the south around Mendoza and San Juan. Aside from the oases, the arid west is sparsely populated, and the xerophytic vegetation is suitable only for the grazing of goats and wool sheep, which are found in small numbers.

Tucumán.- There are small irrigated sugar-producing oases in the extreme northwest in Jujuy and Salta Provinces. However, the chief sugar-producing oasis is located around the city of Tucumán in the Province of the same name. Because of the productivity of this oasis, Tucumán Province has a very dense population. It is situated between the plains of the Chaco and the arid mountains of the northwest. The oasis is constituted of broad, gently sloping piedmont plains crossed by numerous streams and irrigation canals. The canals receive water from the heavily forested mountains which rise along the western boundary of the oasis. Precipitation is heavy in these mountains, and water flows down and across the oasis. Irrigation is not necessary nearest the mountains, but toward the east of the oasis it is required.

Uniformly high temperatures prevail. A frost-free zone extends for some 35 miles east of the mountain front. The area is suited to sugarcane, but there are several handicaps. Cane must ripen in less than a year, as in Louisiana and Florida, which reduces the yield of sugar. Early season frost sometimes forces grinding before the cane is mature. In some seasons, rainfall is below average, and the crop is injured. Thus, the yield varies from year to year. Disease-resistant varieties of cane have been introduced from Java.

Most of the cane is produced by large refineries that employ laborers to work some of the fields and allow contract renters to work the others. Independent operators cultivate a part of the crop and sell their output to the refineries. Most of the cane harvest moves to sugar centrals by rail during the months of May and June.

To protect the high-cost production in this area, Argentina maintains a high tariff on sugar.

The San Juan-Mendoza-San Rafael District.- Three important oases are located in San Juan and Mendoza Provinces south of Tucumán. They center on the cities of San Juan, Mendoza, and San Rafael (fig. 16), and cover about 225,000 acres. Grapes are produced in large volume, and wine production is one of the nation's major industries. About a million short tons of wine grapes are produced yearly in these oases, or about

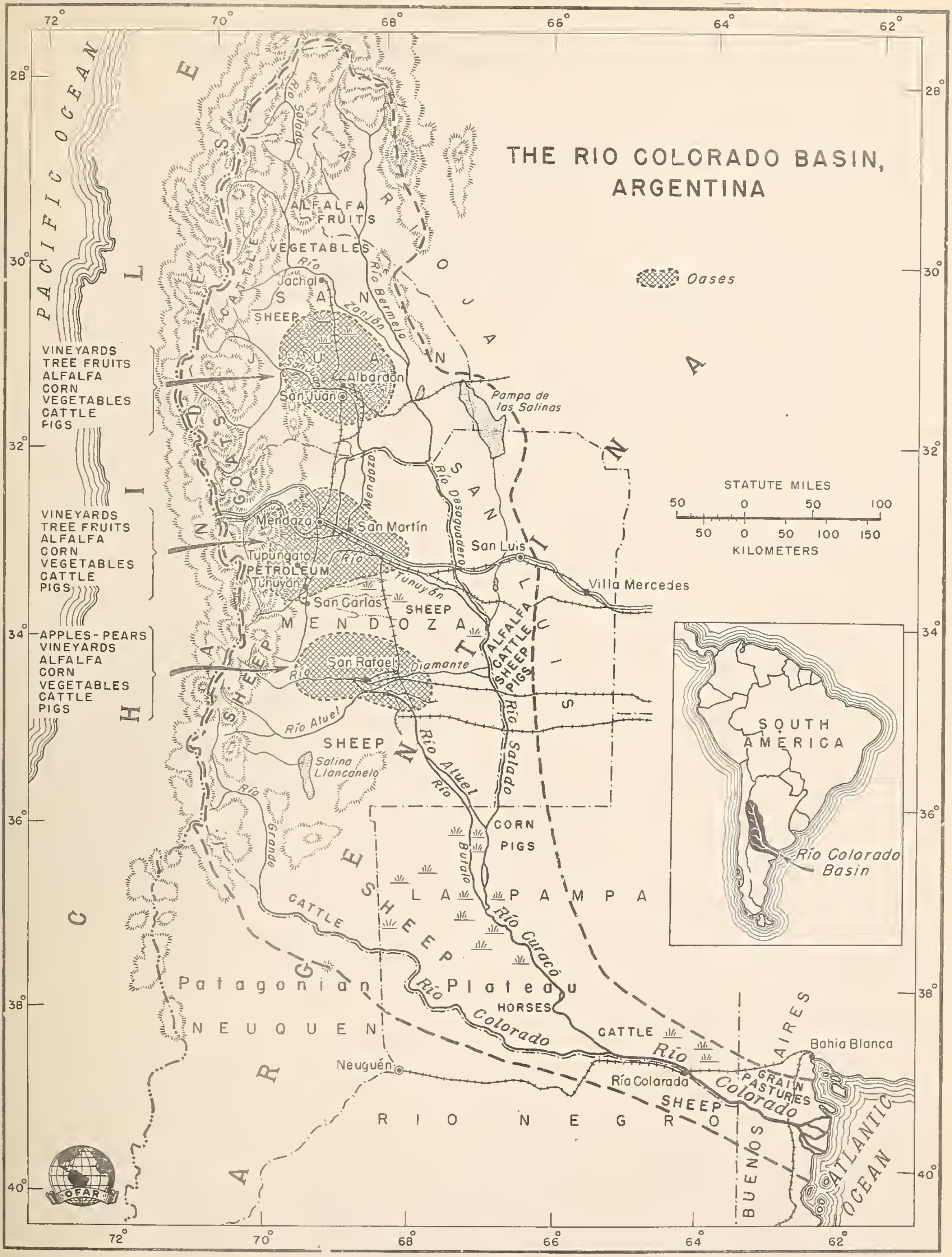

FIGURE 16.- Three important oases in the arid western region of Argentina center around the cities of San Juan, Mendoza, and San Rafael.

85 percent of the country's output. From 120 to 140 million gallons of wine are produced each year from the grapes grown in the three oases. Argentina is the world's fifth leading wine producer.

In addition to the extensive fruit acreage, a large area in the oases is devoted to alfalfa, which is utilized in fattening beef cattle and as a supply of seed for planting the alfalfa ranges of the Pampa. Corn and vegetables are also grown. A considerable acreage has been planted to olive trees, which will start bearing in a few years.

The northernmost of the three oases is that of San Juan. Its climate is hot and dry. Rainfall varies from 2 to 3 inches annually, necessitating complete reliance on irrigation installations. The long growing season and abundance of sunlight make this oasis suited to grape and apricot culture.

The oasis of Mendoza is one vast vineyard. It is the center of the Argentine wine industry. About 10 inches of rain is received yearly. To the west of it are located the Tunuyán and Tupungato irrigated districts at the edge of the Andes. Apples and pears are the most important fruits of these districts, and they are widely known for their fine color and flavor. San Martin lies to the southeast of the city of Mendoza, and it is well-adapted to stone-fruit culture.

San Rafael, the southernmost of the three chief oases, is separated from the Mendoza Oasis by desert. It is an important apple and pear district. The soil is of volcanic origin and extremely fertile.

Patagonia

Southern Argentina, from the Río Negro to the Strait of Magellan, and Argentina's part of the island of Tierra del Fuego, which is south of the Strait, make up Patagonia (figs. 13 and 17). The name Patagonia, meaning big feet, was given by the early explorers to the aborigines in the region. It comprises one-third of the area of Argentina and in size approximates that of the States of Texas and Louisiana combined. About 1 percent of the nation's 14 million inhabitants live in Patagonia, chiefly along the irrigated northern river valleys and in the small coastal towns.

Except for the city of Neuquén, situated on the upper Río Neuquén and Río Limay, the principal settlements are located near the Atlantic coast. Many inhabitants of these settlements and the shepherds of the hinterland immigrated from Scotland, Germany, England, and Wales. Still others came from the British-held Falkland Islands off the coast, where sheep also are raised. Three railways extending from coastal cities to the interior are active chiefly when wool moves to ports. Several points are served by coastwise steamers. Lamb, mutton, wool, and fruit are exported from coastal points to enter international trade.

Seven large rivers and several of lesser importance originate in the Andes and flow eastward across Patagonia to the Atlantic. Named from north to south, the more important are the Negro, Chubut, Deseado, Chico, Santa Cruz, Coyle, and Gallegos. Because of insufficient rainfall, the northern streams go dry at times, but the southern rivers flow continuously because of heavier rainfall, lower temperatures, and the water received steadily from large glacial lakes.

The only croplands that warrant mention in Patagonia are found along the Río Negro, lower Río Chubut, and in the deep valleys of the Sub-Andean Depression south of the Lake Nahuel Huapí in the high-rainfall area. Along the floors of the river valleys crops are cultivated under irrigation. Since the rivers are from 100 to 300 feet below the surface of the plateaus through which they pass, the cropped areas are protected from strong winds.

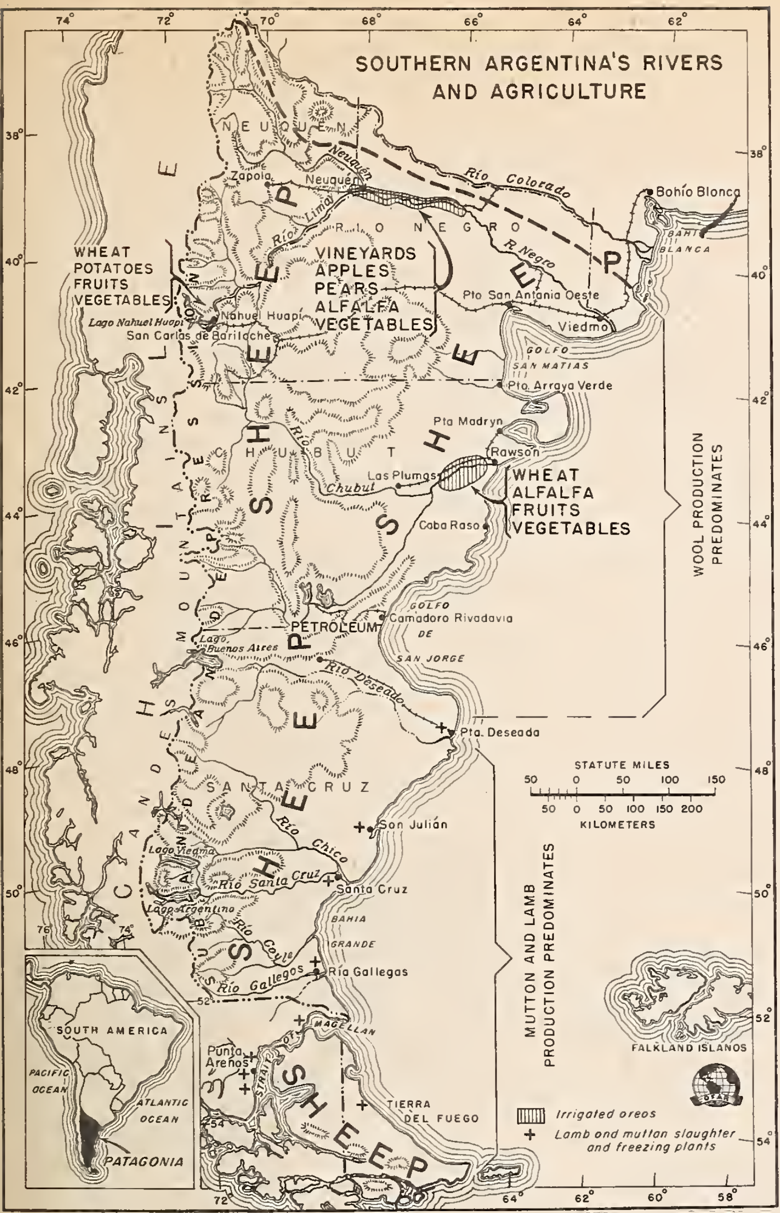

FIGURE 17.- Southern Argentina, from the Río Negro to the Strait of Magellan, including Argentina's part of Tierra del Fuego (Land of Fire), constitutes Patagonia. This is chiefly a sheep-raising region. Crops and fruit are grown in the northern river bottoms indicated by shading.

One of Argentina's principal fruit-producing centers is located in the Río Negro Valley, where intensive farming is practiced and settlement is dense. An irrigable area of 150,000 acres is served by the Río Negro-Neuquén Dam in this valley. Farms average 15 acres in size, and many of them are intensively planted to apples, pears, peaches, plums, quinces, and grapes. These fruits are sold domestically, or exported to Northern Hemisphere markets under advantage of reversed seasons. Some farmers grow vegetables extensively, others produce alfalfa seed, and still others grow diversified crops. In the Río Chubut Valley alfalfa, wheat, fruit, and vegetables are grown but on a smaller scale than in the Río Negro Valley to the north. The valleys south of the Chubut are too cool for crops.

The Sub-Andean Depression of southwestern Patagonia is one of the picturesque regions of the continent. Wheat, vegetables, and fruits are grown without irrigation in the high rainfall area south of Lake Nahuel Huapí for local needs and to provision shepherds living in the outlying areas.

Some cattle are raised, particularly on the better pasture lands of the northwest. Sheep grazing, however, is the major industry. Sheep are raised throughout Patagonia, except in the Andes, and from them about half the nation's wool is obtained. Mutton and lamb production centers in the south, where several packinghouses and meat-freezing plants are located, and wool production centers in the north. Sheep are concentrated in great numbers on the humid pasture lands just to the north and south of the Strait of Magellan. Virtually all sheep ranches are larger than 1,500 acres, some exceeding half a million, and are greatly isolated. Low carrying capacity of the land necessitates a large pasture area per animal.

PRINCIPAL CROPS

Wheat

On the basis of planted acreage, wheat (7) is the most important Argentine crop (tables 1, 2, 3, 5, and 6; figs. 4 and 5). The location and productivity of the wheat belt of the Pampa is indicated in figure 18. This belt, although devoted principally to wheat, also supports cattle and alfalfa throughout its area; oats, barley, and rye in the south; and corn and flaxseed largely in the north. The regions of greatest wheat concentration are along the periphery of the corn belt in southern Buenos Aires, central Córdoba, and western Santa Fé. Crop and livestock competition restricts the wheat acreage to a small percentage of the land area in parts of the cereal belt, but in the leading wheat-producing districts to the northwest and southwest, wheat acreage comprises from 20 to 40 percent of the land area.

Approximately 75 percent of the wheat acreage is tilled by tenant farmers, mostly on share-crop contracts. Under share cropping, the owner usually gets from 25 to 30 percent of the wheat produced. The rest of the acreage is owner-operated, and a degree of mixed-grain and livestock farming is practiced on it. Some wheat is sown under estancia administration. Consideration of increased returns resulting from diversification have influenced many to grow corn and wheat.

Italian and Spanish tenants, mostly foreign-born, predominate in the cereal belts, but there are colonies of many others nationalities - Russians, Germans, Dutch, Poles, and Danes - scattered throughout the wheat portion. Many prosper, and some acquire

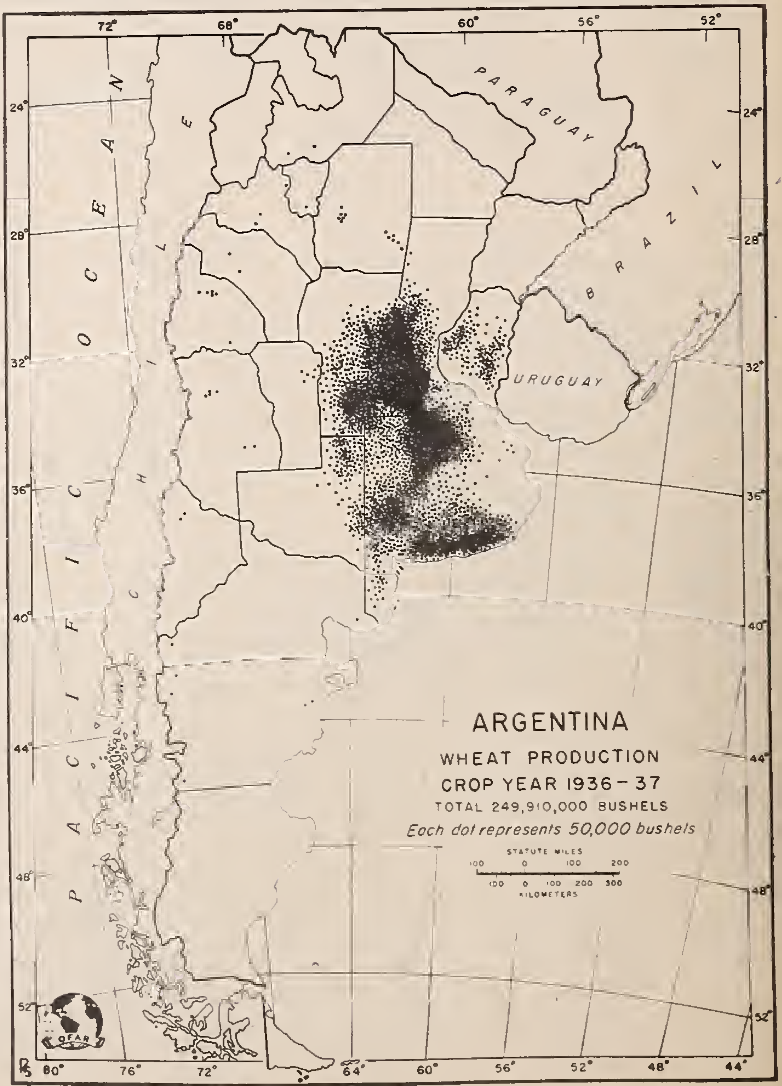

FIGURE 18.- Map of Argentina, showing the location of the wheat belt.

land for themselves, but they continue to operate as tenant farmers. Although tenants do not own their land, they must build their own houses in most sections, and investments in dwellings are small.

As to production methods, wheat cultivation on the whole is large-scale, mechanized, and extensive rather than intensive. Horse traction, however, predominates, because feed is cheap and tractor fuel expensive. The crop is planted from April to August (table 9). From November to 'anuary, the grain is harvested with headers and combines. Headers are used chiefly in the Provinces of Santa Fé and Córdoba, binders in northwestern Buenos Aires and Entre Rios Provinces, and combines in southwestern Buenos Aires, where labor is scarcest. The combines, usually rented on a share-of-the-crop basis, go from farm to farm during harvest. Wheat moves to the railway stations in huge horse-drawn carts and trucks in jute bags of 60- to 65-kilo capacity.

To facilitate the marketing of wheat, some of the large export firms maintain offices at the chief railway stations in the cereal belt and buy direct from farmers. Most of the wheat, however, is sold by growers to local grain buyers who usually own general stores and, to a considerable extent, finance the tenant farmers.

Little wheat is stored on farms, and there are few country elevators in Argentina. There are extensive facilities (fig. 19), however, for grain storage in sheds and warehouses at the railway stations. Most stations in the wheat belt have from 1 to 6 galvanized sheet-steel sheds built by the railways or grain buyers on the railway right-of-way. In years of large crops, grain buyers accumulate large piles of sacked and bulk wheat in the open along the railway tracks in the drier parts of the wheat belt. The wheat is placed on brick floors that have been laid on the ground and covered with asphalt. Walls and pillars may be made of sacked wheat to retain bulk wheat which is placed inside by an elevator. When filled, wooden rafters are laid over the walls and pillars which support a tarpaulin or galvanized iron roof, or a tarpaulin may simply be laid on top of the bags. Such structures may be 300 feet long.

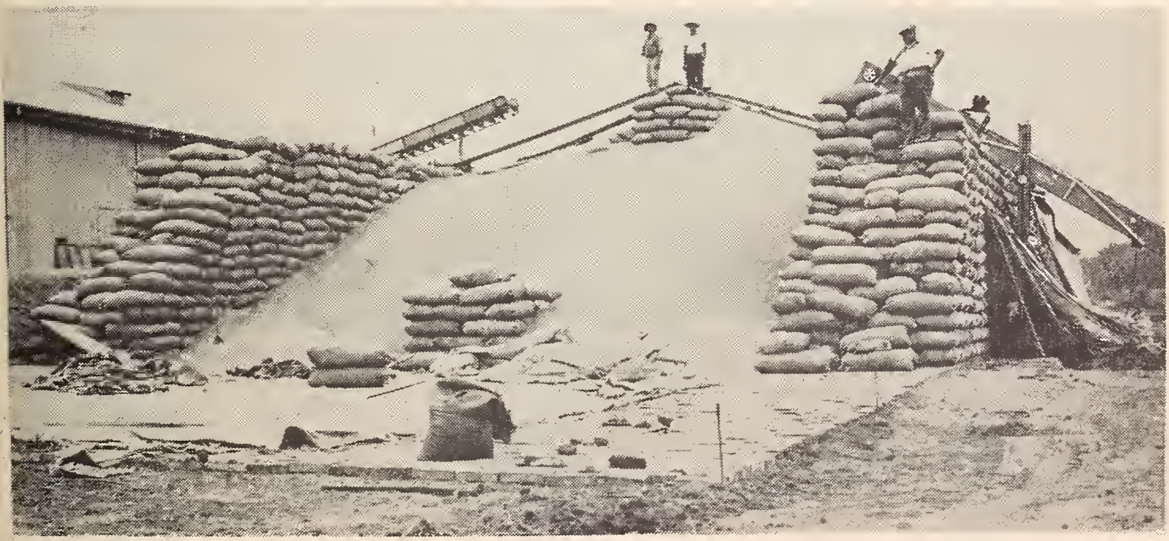

FIGURE 19.- Combined bulk- and sacked-wheat storage. The features of this storage may be noted: (1) Brick floor covered with asphalt; (2) walls and pillars of sacked wheat, (3) wooden rafters and roof boards upon which galvanized-iron roofing is attached; (4) wall props of iron railway ties, (5) machines for elevating bulk wheat into the pile. This pile is about 300 feet long.

TABLE 9.- *Planting and harvesting dates in Argentina* [1]

CROPS	PLANTING SEASON	HARVESTING SEASON
Beverages: Coffee	Sept.-Jan.	June-Aug.
Yerba Maté (plants)	Feb.-April	May-Sept.
Cereals and Grains: Barley	June-Aug.	Nov.-Dec.
Corn	Sept.-Dec.	March-June
Oats	June-Aug.	Nov.-Jan.
Rice	Aug.-Oct.	Dec.-Feb.
Rye	June-Aug.	Nov.-Jan.
Wheat	April-Aug.	Nov.-Jan.
Feedstuffs: Alfalfa	March-April	-
Grain sorghum	Sept.-Nov.	March-April
Fibers: Cotton	Sept.-Nov.	Mar.-May
Hemp	Sept.-Oct.	Feb.-March
Jute	Sept.-Nov.	March
Fruits: Apples	Oct.	Jan.-May
Apricots	Sept.	Jan.-March
Bananas	Sept.-Oct.	April-May
Cherries	Sept.	Dec.-Feb.
Currants	Sept.-Oct.	Dec.-Jan.
Grapes	Aug.-Oct.	Feb.-March
Lemons	Throughout year	Throughout year
Mandarins	Aug.-Sept.	Feb.-June
Oranges	Aug.-Sept.	Feb.-June
Peaches	Sept.	Dec.-April
Pears	Oct.	Jan.-June
Plums	Sept.	Jan.-March
Quinces	Oct.	Feb.-March
Raspberries	Oct.-Nov.	Jan.-March
Strawberries	April-Aug.	July-Sept.
Oilseeds: Castor-beans	Sept.-Oct.	March-May
Flaxseed	May-Aug.	Nov.-Dec.
Peanuts	Oct.-Nov.	March-May
Sunflower seed	Sept.-Nov.	March-April
Seed Crops: Alfalfa	March-April	March-April
Canary seed	Sept.-Dec.	Dec.-Jan.
Hops	Sept.-Oct.	March-May
Ramie	Sept.-Oct.	Dec.-April
Sugarcane	Nov.-Dec.	April-June
Tobacco	Sept.	March-May
Vegetables: Asparagus	Aug.-Oct.	Dec.-Feb.
Beans, string	Sept.-Dec.	Dec.-May
Beans, dry	Sept.-Jan.	April-May
Beets	Throughout year	Throughout year
Cabbage	do	do
Cantaloups	Sept.-Nov.	Jan.-April
Cucumbers	July-Jan.	Dec.-April
Eggplant	Sept.-Jan.	Jan.-April
Garlic	Throughout year	Throughout year
Lettuce	do	do
Mandioca manioc	Sept.-Oct.	Jan.-May
Onions	Feb.-Oct.	Throughout year
Peas	June-Sept.	Nov.-Jan.
Peppers	Jan.-Sept.	Dec.-May
Potatoes	Aug.-March	Feb.-June
Radishes	Throughout year	Throughout year
Squash	Sept.-Dec.	Nov.-April
Sweetpotatoes	Aug.-Sept.	March-May
Tomatoes	July-Feb.	Nov.-June
Turnips	Throughout year	Throughout year
Watermelons	Sept.-Nov.	Jan.-April

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[1] Located in the temperate region of the Southern Hemisphere, Argentina's planting and harvesting dates are almost the reverse of those in the United States.

Compiled by the Office of Foreign Agricultural Relations and based largely on Estabrook, Leon M. (2)

The Argentine Government, through the National Grain and Elevator Commission, operates a system of public country and terminal elevators. The latter are located at various river and ocean ports. Country elevators have small storage capacity. The 1936-40 average annual production of wheat, corn, and flaxseed - the principal stored products - was almost 17 million short tons. The estimated total storage capacity of sheds and country and port elevators is 10.3 million short tons. Much of the crop, however, may not go into storage, since it is loaded on ships almost as soon as it arrives at the terminals.

The domestic market, with one of the highest per capita levels of wheat consumption in the world, absorbs from 40 to 45 percent of the total wheat production. Over 2 million short tons are milled each year. Some 700,000 short tons are used for seeding each season. About 3.5 million short tons were exported annually during 1936-40.

Corn

The most important crop in Argentina on a tonnage yield basis is corn (6). (See tables 1, 2, 3, 5, and 6; figs. 4 and 6.) Argentina ranks second to the United States among the world's leading corn-producing countries. For many years it has been first among corn-exporting countries, having shipped an average of 6.6 million short tons annually during the decade 1931-40. The location and productivity of the corn belt of the Pampa is indicated by figure 20. This cereal is grown throughout a large part of the country, but the area of most intensive cultivation forms a belt in northern Buenos Aires, southern Santa Fé and eastern Córdoba Provinces. This is also the principal alfalfa- and livestock-producing region. The Argentine corn belt, occupying an area of about 30,000 square miles, is the second largest (after that of the United States) in the Western Hemisphere. Rosario is the commercial corn center and the world's largest corn port.

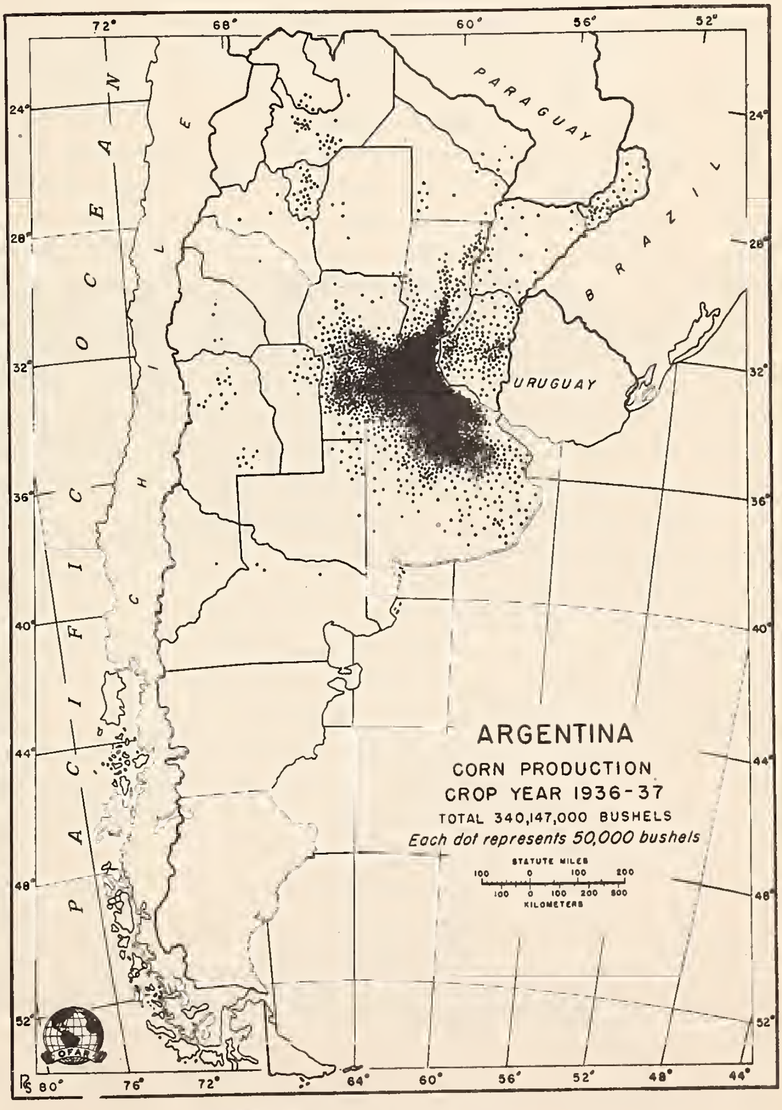


Figure 20.- Map of Argentina, showing the location of the corn belt.

Argentine corn is mainly of the flint type - yellow, small-kerneled, and of low moisture content - which is preferred in Europe because of its superior keeping qualities. The flint type is preferred also because it is less apt to be damaged by insects prior to export. In recent years, large-kerneled dent types, more suitable for hog feeding, have been introduced.

The present system of corn production - as that of wheat - is a transition from cattle and sheep grazing to tillage, which is accomplished by dividing parts of an estate into tracts to be worked by tenants and share croppers. Continuous planting of corn on the same land for from 10 to 20 years is not uncommon, since crop rotation is seldom utilized to conserve fertility. Nevertheless, corn yields from 1930-31 to 1939-40 averaged 29.5 bushels per harvested acre, which compared favorably with average yields in the United States Corn Belt before the days of hybrid-seed corn.

Share tenancy prevails in the corn belt, based on the usual 30- to 35-percent share. Many of the tenants are Italian immigrants, or their descendants, whose standard of living is low compared with that of tenant farmers in the grain belt of the United States. They build their own houses of adobe and generally remain on the same land from 10 to 25 years.

The scale of operation in the corn belt is much smaller than that in the wheat belt. Corn is grown on about 240,000 farms generally ranging in size from 175 to 250 acres. About two-thirds are operated by tenants. The use of machinery is limited. Corn is drilled in straight rows - not checkrowed as in the United States Corn Belt - with rows and plants closer together than is customary in this country. Three-row planters and cultivators, horse-drawn, are in general use, but some five-row tractor-drawn planters and cultivators are used. The corn is generally cultivated in the principal producing area, but in other sections a considerable acreage receives no attention whatever after planting. Corn is planted from September to December. The crop is generally made by February 15, but husking does not get under way until late March. From then until the end of June, the crop is husked from the stalk by large numbers of men, women, and children working on a piece-rate basis. The husked corn is bagged in the field, hauled to the farmstead, and stored for 2 to 8 months in makeshift cribs. Shelling is in progress from May to August.

As in the case of wheat, corn is either sold direct to export firms or to local grain buyers, who also operate general stores. It is usually purchased in the crib on a shelled basis and is then shelled, generally by the buyer's machines. The shelled corn is moved by wagon to the railway stations, or directly to port cities by truck from farms located on or near highways.

About three-fourths of the entire corn crop is produced within 125 miles of a port. The elevator storage capacity in the ports of Rosario, Santa Fé, and Buenos Aires is not large. Consequently, if the export movement does not keep pace with the movement from the farm, stocks tend to accumulate at the country railway stations, where it is piled under tarpaulin cover.

Other Cereals

Argentina is a minor producer of oats but ranks first among exporters, shipping in some years more than half the oats entering world trade. (See tables 1 and 3.) About 80 percent of the oat crop is grown in the central and southern parts of Buenos Aires Province, most of the remainder in the Provinces of Entre Rios, Córdoba, Santa

Fé, and in the Territory of La Pampa. The crop is seeded from June to August and harvested as grain from November to January (table 9). Part of it is used as forage where winter grasses are inadequate and as a finishing fodder for cattle.

Argentina's exports of about 300,000 to 400,000 short tons of barley represent about 10 percent of the world trade in this cereal. About 75 percent of this crop is produced in southern Buenos Aires Province, and a large portion of the remainder in La Pampa Territory and Córdoba Province. A considerable part of the planted acreage is used for forage. Sowings are made from April to September, and harvesting occurs in November and December.

Rye is cultivated mainly in the region where the Provinces of Buenos Aires and Córdoba and La Pampa Territory converge. It is also seeded in the Andean valleys, the southern territories, and other areas too dry or too cool for corn and wheat. The crop is sown from June through August and harvested from November to January. Total annual production is about 350,000 short tons, about a third of which is exported.

Rice production has increased many fold since 1931, when high duties were placed on imports (table 10). Production prior to World War II averaged 30,000 short tons annually. This increased to 150,000 short tons during the crop year 1944-45, when 130,000 acres were planted. Argentina is now about self-sufficient in this cereal. It is grown along the Paraná River, chiefly in Corrientes Province. Sown in October, the crop is harvested in January and February.

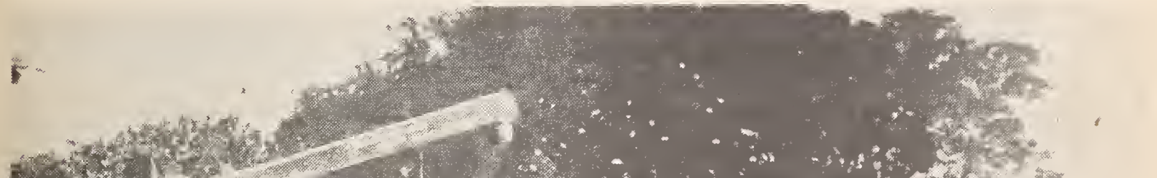


FIGURE 21.- Shelling and sacking corn. Argentina exports 61 percent of the corn that moves in world trade.

TABLE 10.- *Argentine acreage and production of rice, sugar, and tobacco, 1929-30 to 1945-46; exports of rice and sugar 1930-45*

YEARS	RICE		SUGAR		TOBACCO		EXPORTS	
	ACREAGE	PRODUCTION	ACREAGE	PRODUCTION	ACREAGE	PRODUCTION	RICE [2]	SUGAR
	1,000 acres	*1,000 pounds*	*1,000 acres*	*1,000 pounds*	*1,000 acres*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
1929-30	9,106	13,267	351,507	844,241	31,678	29,277	264	9,396
1930-31	8,728	11,618	353,415	756,057	31,065	23,841	165	8,909
1931-32	15,864	22,769	354,873	770,287	36,647	28,953	258	3,104
1932-33	33,079	51,830	357,287	705,238	35,484	32,959	335	6,971
1933-34	47,221	73,876	357,793	761,242	29,860	22,302	1,488	3,776
1934-35	38,152	76,969	362,194	861,866	53,346	52,348	675	5,035
1935-36	36,442	73,894	366,222	960,928	38,515	33,563	922	10,871
1936-37	41,068	83.997	463,812	818,244	26,981	23,113	401	2,769
1937 38	53,858	105,849	466,881	1,023,446	28,641	17,225	143	5,798
1938-39	81,768	222,515	467,002	1,149,884	46,373	44,855	293	65,840
1939-40	81,543	213,846	456,297	1,191,875	50,310	40,990	578	99,002
1940-41	75,366	123,458	470,155	894,188	53,893	39,749	1,394	30,333
1941-42	83,520	238,317	446,505	797,812	42,459	32,732	346	81,202
1942-43	102,794	218,366	517,497	903,886	47,023	39,711	172	7,780
1943-44	138,013	358,144	568,849	1,011,911	50,552	42,017	201	1,173
1944-45	128,492	306,329	591,681	989,865	53,534	46,424	6,005	8,417
1945-46	121,573	348,106	618,244	1,355,829	68,187	61,751	(3)	(3)

[1] Rough rice.

[2] Clean rice.

[3] Not available.

Oilseeds

Argentina is the principal world producer of flaxseed and, until World War II, exported the entire crop, either as seed or oil, except for 175,000 short tons generally retained for seed. (See tables 1, 2, and 3 and fig. 7.) Argentine exports represented over 78 percent of total world exports during 1936-40 (fig. 4). Oilseed-crushing facilities have been greatly expanded in recent years, as is indicated by a sharp uptrend in oil production (fig. 22). During World War II, exports of flaxseed were prohibited by the Government, and oil derived from flaxseed was burned as fuel for locomotion, heat, and industrial power.

Flax is grown in Argentina almost exclusively for its oil-bearing seed rather than for its fiber. World demand for linseed oil for use in paints and varnishes spurred increased cultivation.

The area most suited to flaxseed production coincides with the region of most intensive corn cultivation (figs. 20 and 23). In fact, flax offers considerable competition with the corn enterprise. Entre Rios, northern Buenos Aires, and central Santa Fé are the principal flaxseed centers. The rest of Buenos Aires and Córdoba Province are marginal producing zones. Flaxseed is sown from May to August, and the harvest is generally completed by December. Production methods are relatively highly mechanized.

During the past decade, Argentina has shifted from an importer to an exporter of edible vegetable oils. It has become one of the world's major producers of sunflower seed. The output of cottonseed and peanuts has expanded which, together with sunflower seed, is utilized in the manufacture of edible oils. Small quantities of olive and rapeseed oils are also produced. From 1935 to 1945, production of these oils increased from 120,000 to 280,000 short tons (fig. 22). Major markets are in the United Kingdom and the United States.

Sunflower-seed production has increased at a tremendous rate. In 1935 about 300,000 acres were planted, and 5,200 short tons of seed and less than 1,000 short tons of oil were exported. In 1945 almost 4 million acres were planted, and 40,000 short tons of seed and 80,000 short tons of oil were exported. The principal sunflower-producing areas are in Buenos Aires, Córdoba, Santa Fé, and Entre Rios Provinces. Sowing takes place from September to November after danger of spring frost has passed, and harvesting of the seed is completed by May (table 9).

About 153,000 short tons of peanuts were produced in 1946, about two-thirds of which came from the sandy soils of Córdoba, and the remainder from Entre Rios, Santa Fé, and Santiago del Estero Provinces. Planting takes place in October and November and harvesting in March, April, and May.

Increasing production of cotton has resulted in a progressive uptrend in cottonseed-oil production (fig. 22). The Government has encouraged the production of olive oil, but output remains small.

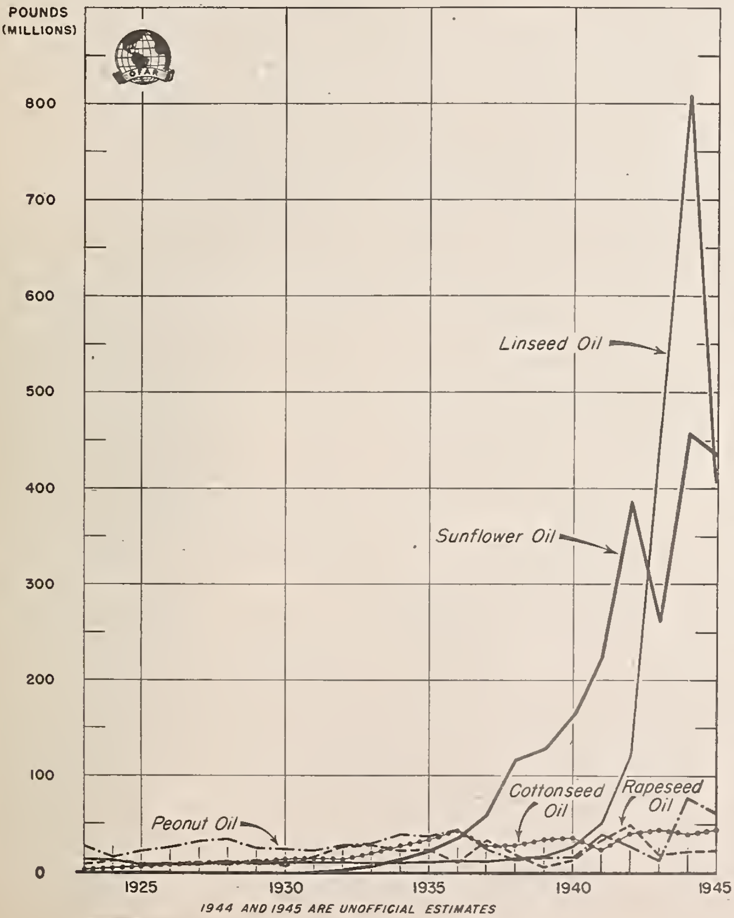


FIGURE 22.- Argentine production of major vegetable oils, 1923-45.

Alfalfa and Other Pasture Grasses

Alfalfa is the chief forage crop planted, and each year the acreage in this increases. During the decade 1930-39, an average of over 13 million acres were devoted to it on well-drained light soils, chiefly in those areas where native grasses do not flourish. A portion of the alfalfa acreage is cut for hay one or more times annually. Cuttings are generally made in the dairying regions, for elsewhere it is chiefly grazed by livestock.

The major alfalfa region is somewhat larger than the corn belt but occupies about the same geographic position. Furthermore, alfalfa is grown extensively in the central and western portion of the wheat belt and in eastern San Luis Province. In the eastern part of the Pampa, the native grasses thrive so well that they soon destroy alfalfa. The feeding value of alfalfa, however, is about four times that of native grass. One planting may last as long as 15 years but generally for only 4 or 5. It provides forage for grazing from September to April. In the winter months, cattle are moved eastward into rye, oats, and barley pastures. When the fertility of land is taxed by continuous cereal and flax cropping, alfalfa is frequently planted on it for 5 to 10 years, during which time fertility is partly restored.

Native and improved pastures, other than alfalfa, are composed primarily of various species of ryegrass and bromegrass and secondarily of Dallisgrass, burclover, white clover, silver beardgrass, and carpetgrass. They dry up for 3 or 4 months in the hot and relatively dry summer and again in winter in the western part of the Pampa but tend to remain green in the east. They make a heavy sod in the east but become progressively thinner in the west. Except on the heavy natural grasslands in the eastern part of the Province of Buenos Aires and in Entre Rios, improved varieties have replaced native grasses.

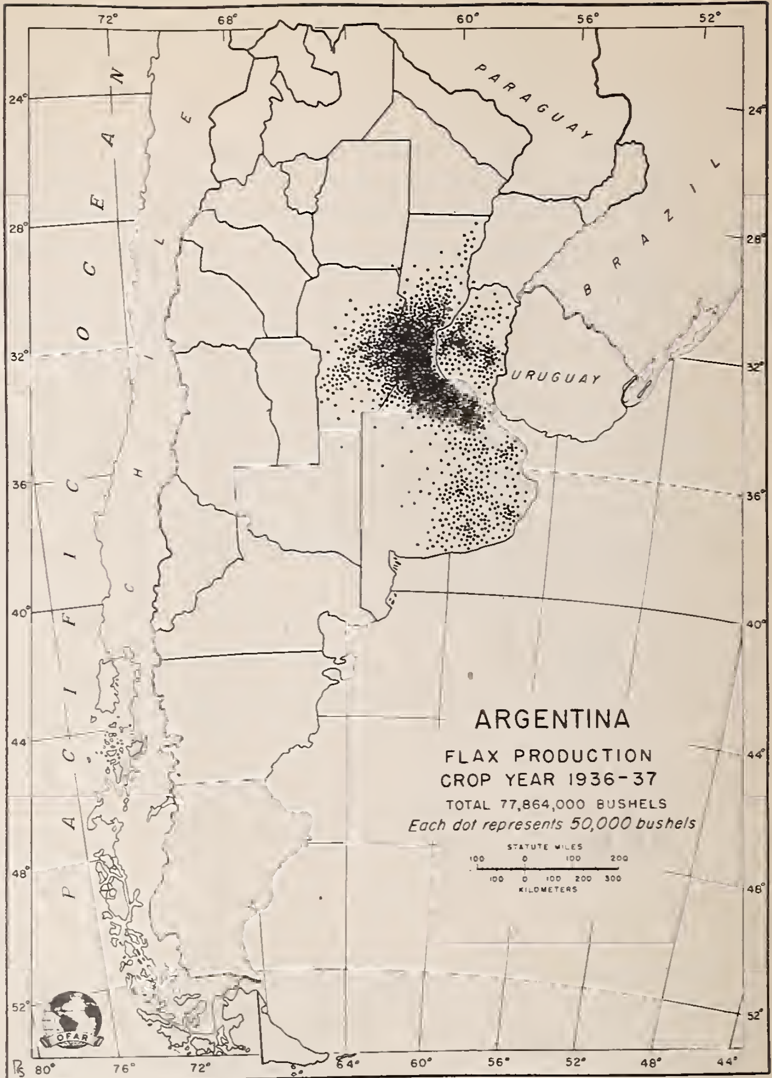


FIGURE 23.- Map of Argentina, showing the location of flax belt.

Oats, rye, barley, and even corn are often grown as supplementary pastures. When wheat and corn prices are low, considerable acreage in these grains is used as pasture instead of being harvested.

Sugarcane

In recent years sugar production has fluctuated slightly above or below domestic requirements (table 10). About 500,000 short tons are produced yearly from cane, and small imports are often made from Uruguay and Brazil. From 65 to 75 percent of the cane is grown in Tucumán Province, which has abundant rain and mild winters. The rest

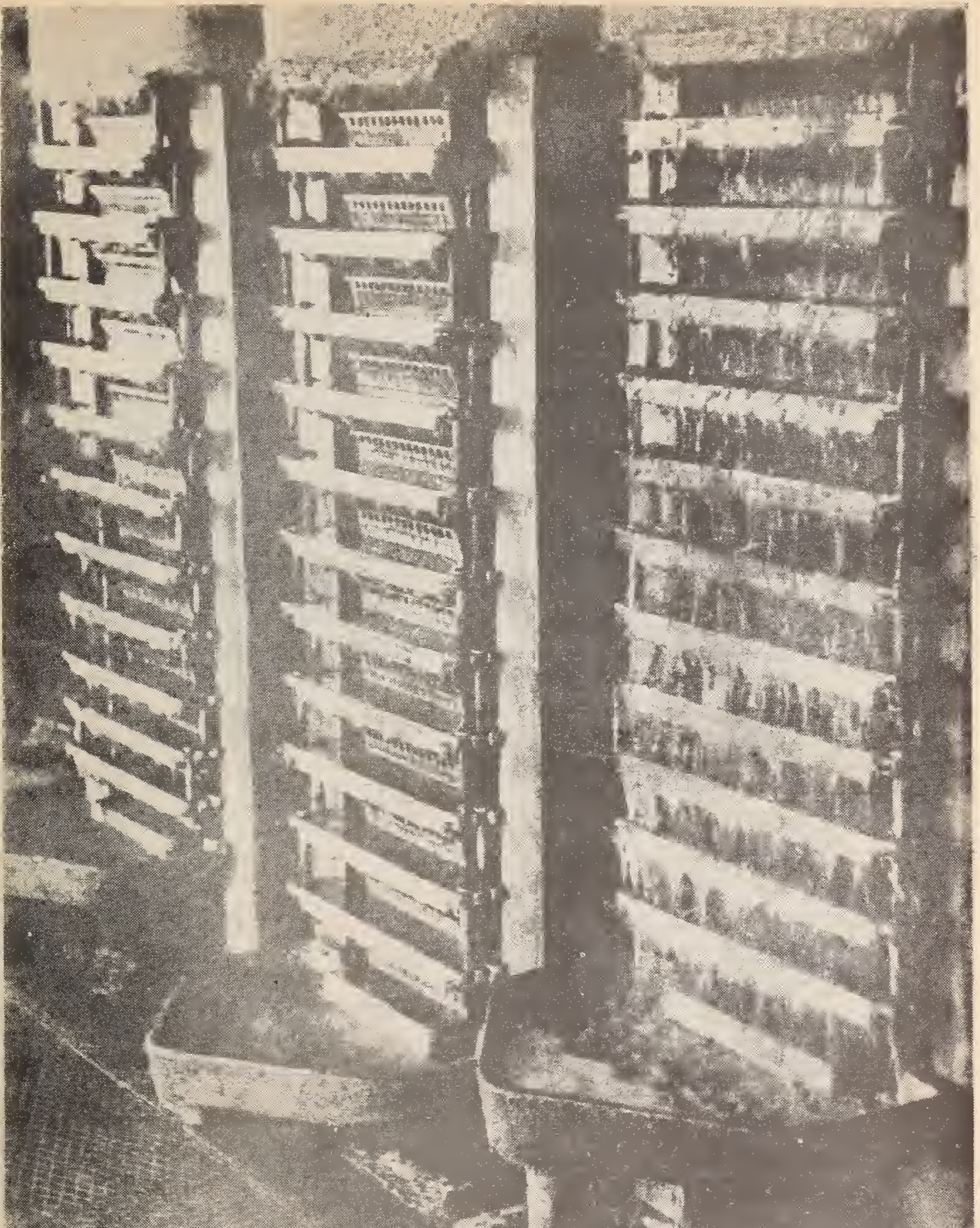


FIGURE 24. - A linseed-oil press in operation.

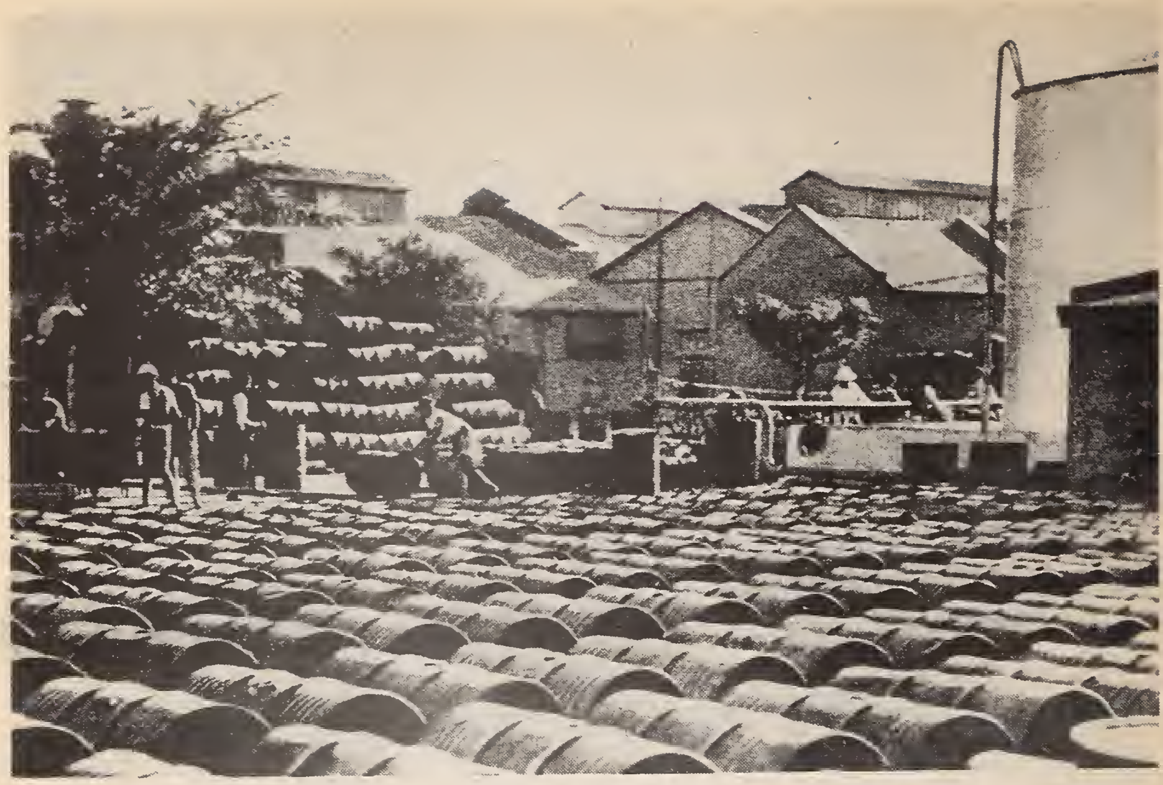


FIGURE 25.- Barrels of linseed oil at an extraction plant awaiting shipment.

of the crop is made in the Provinces of Jujuy, Salta, and Santa Fé and in the Chaco Territory. About 450,000 acres are planted annually and harvested from June through October. A small acreage of sugar beets has been grown recently in Río Negro Province.

Cotton

During the decade 1936-45, 343,000 bales of cotton, on the average, were produced annually in Argentina. Production has been increasing rapidly for decades. Domestic industries are consuming an increasingly large part of the crop, and exports in 1945 constituted only 12 percent of total production. From 80 to 90 percent of the crop is grown in the Chaco Territory northwest of Resistencia and the remainder in a secondary area in north central Corrientes Province. Settlement in the Chaco cotton area is made up mostly of immigrants from various parts of Europe. By allotting land to colonists, tenancy has been reduced to a low level.

Cotton production could undergo much further expansion in the Chaco. However, the prevalence of drought, insects, and pests and the scarcity of labor are retarding further output.

Fruit

Virtually all kinds of fruit (3) can be grown in Argentina. In the north and east, citrus and other subtropical fruits are grown; deciduous fruits are found chiefly in the southern, western, and eastern areas (fig. 26 and table 11). Export fruits are produced chiefly in irrigated arid and semiarid regions where soil and climatic conditions are most suitable. Commercial production of fruit is a relatively recent development. Most areas adapted to fruit culture have been tapped by railways only in the last three decades. Irrigation installations are also of recent origin. Most fruits, including grapes, are harvested and exported to Northern Hemisphere markets from December through April.

The principal tree-fruit center is located in the Río Negro Valley, an irrigated area of intensive farming and dense settlement. (See shaded portion of the Río Negro Valley, figs. 13 and 17.) The area is served by the Río Negro-Neuquén Dam, completed in 1921 as a joint project of the Argentine Government and the Buenos Aires Great Southern Railway at a cost of 13 million dollars (U.S.). It serves an irrigable area of 150,000 acres. People of some 12 nationalities are found here, but Spanish and Italian predominate. Most farms average 15 acres in size and are intensively planted with apple and pear trees. Not all farms produce fruit; some grow vegetables primarily; some alfalfa seed; and the remainder diversified crops.

In northern Argentina there is a large citrus-fruit area in Corrientes Province, and a large fruit-producing area is located on the Paraná River Delta near the city of Buenos Aires. (See fig. 26.) Oranges are grown in Tucumán Province, and grapes, apples, and pears in the oases of Mendoza Province.

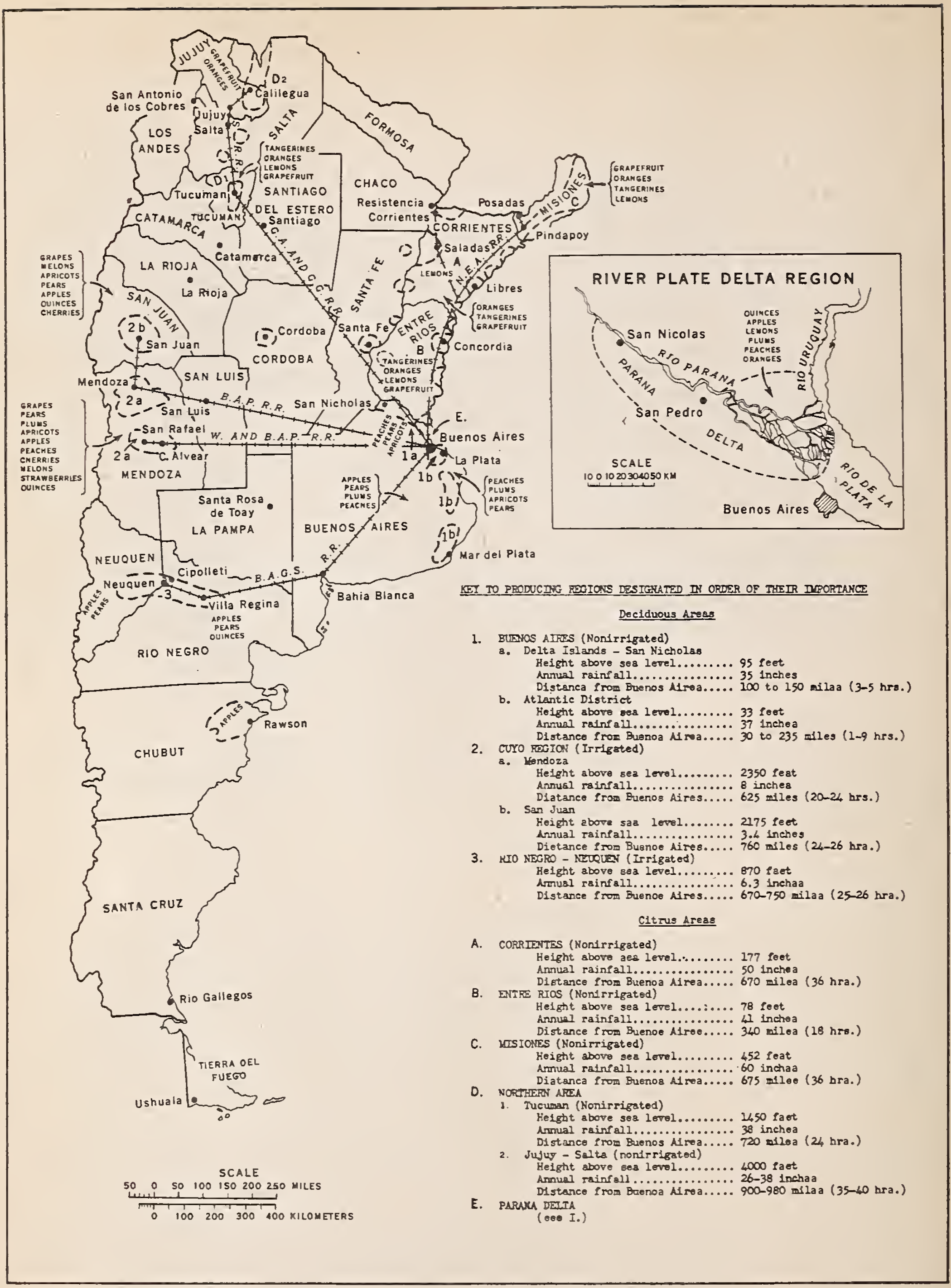
A vineyard belt is found in the large irrigated oasis which surrounds the city of Mendoza. (See irrigated areas, figs. 13 and 16.) Other fruits and vegetables also grow here, particularly in the San Juan Oasis to the north and the San Rafael Oasis to the south. The grape farms are small, and the population is dense and homogeneous. The majority of farmers and townspeople are Spanish and Italian. Most of them have lived in the area for over 25 years. The farms are largely owner-operated. Being small and close together, they are, for the most part, within walking distance of schools and stores. Over 95 percent of the grape production is consumed by the wine industry, and the remainder is used for table grapes and raisins. Argentina is one of the world's leading producers of raisins.

Tobacco

About 50,000 acres of tobacco are planted annually in the Provinces of Corrientes and Salta and in the territory of Misiones, which give an average yield of about 16,000 short tons, or enough to provide slightly more than half the domestic requirements (table 10). The crop is planted in September and harvested in March, April, and May.

Yerba Maté

Yerbá mate, a plant with a tealike leaf from which is brewed the Argentine national beverage, is grown along the upper Paraná River in Misiones Territory and in northern Corrientes Province, the boundary between Argentina and Paraguay. The yerba-maté belt is a combination of large plantations *(yerbales)* and small farms. To supplement their yerba maté many of the plantations in recent years have set out tung trees for the production of tung oil. Considerable transient labor is employed for picking, and



KEY TO PRODUCING REGIONS DESIGNATED IN ORDER OF THEIR IMPORTANCE

Deciduous Areas

1. BUENOS AIRES (Nonirrigated)
   a. Delta Islands - San Nicholas
      Height above sea level......... 95 feet
      Annual rainfall................ 35 inches
      Distance from Buenos Aires..... 100 to 150 miles (3-5 hrs.)
   b. Atlantic District
      Height above sea level......... 33 feet
      Annual rainfall................ 37 inches
      Distance from Buenos Aires..... 30 to 235 miles (1-9 hrs.)
2. CUYO REGION (Irrigated)
   a. Mendoza
      Height above sea level......... 2350 feet
      Annual rainfall................ 8 inches
      Distance from Buenos Aires..... 625 miles (20-24 hrs.)
   b. San Juan
      Height above sea level......... 2175 feet
      Annual rainfall................ 3.4 inches
      Distance from Buenos Aires..... 760 miles (24-26 hrs.)
3. RIO NEGRO - NEUQUEN (Irrigated)
   Height above sea level......... 870 feet
   Annual rainfall................ 6.3 inches
   Distance from Buenos Aires..... 670-750 miles (25-26 hrs.)

Citrus Areas

A. CORRIENTES (Nonirrigated)
   Height above sea level......... 177 feet
   Annual rainfall................ 50 inches
   Distance from Buenos Aires..... 670 miles (36 hrs.)
B. ENTRE RIOS (Nonirrigated)
   Height above sea level......... 78 feet
   Annual rainfall................ 41 inches
   Distance from Buenos Aires..... 340 miles (18 hrs.)
C. MISIONES (Nonirrigated)
   Height above sea level......... 452 feet
   Annual rainfall................ 60 inches
   Distance from Buenos Aires..... 675 miles (36 hrs.)
D. NORTHERN AREA
   1. Tucuman (Nonirrigated)
      Height above sea level......... 1450 feet
      Annual rainfall................ 38 inches
      Distance from Buenos Aires..... 720 miles (24 hrs.)
   2. Jujuy - Salta (nonirrigated)
      Height above sea level......... 4000 feet
      Annual rainfall................ 26-38 inches
      Distance from Buenos Aires..... 900-980 miles (35-40 hrs.)
E. PARANA DELTA
   (see I.)

FIGURE 26.- Map of Argentina showing fruit-growing regions - location, elevation, annual rainfall, and distance from Buenos Aires.

Table 11.- *Argentine production and exports of major fruits, 1929-30 to 1945-46*

Years and Item	Apples	Table grapes	Peaches	Pears	Plums
	Short tons	*Short tons*	*Short tons*	*Short tons*	*Short tons*
Production:					
1929-30	(1)	(1)	(1)	(1)	(1)
1930-31	(1)	(1)	(1)	(1)	(1)
1931-32	3,195	(1)	(1)	6,695	(1)
1932-33	5,099	(1)	(1)	9,948	(1)
1933-34	8,251	113,537	(1)	15,109	(1)
1934-35	12,424	(1)	(1)	21,850	(1)
1935-36	17,388	(1)	(1)	31,047	(1)
1936-37	22,838	162,257	69,535	41,836	14,435
1937-38	49,471	(1)	(1)	59,356	(1)
1938-39	33,870	(1)	(1)	70,400	(1)
1939-40	30,483	(1)	(1)	66,138	(1)
1940-41	97,553	231,483	99,626	108,797	22,266
1941-42	93,695	228,837	68,784	80,468	14,330
1942-43	159,179	261,686	162,185	151,119	32,064
1943-44	137,898	277,669	106,482	132,000	27,172
1944-45	186,509	173,392	141,756	114,088	29,101
1945-46	179,565	214,618	191,690	133,378	27,998
Exports:					
1929-30	205	5,976	262	321	76
1930-31	80	6,721	330	513	82
1931-32	621	5,283	344	2,207	120
1932-33	273	6,069	344	1,793	205
1933-34	195	7,475	304	2,215	68
1934-35	1,718	7,674	483	5,182	247
1935-36	4,832	9,829	492	11,596	203
1936-37	6,213	9,818	521	14,310	244
1937-38	4,503	9,236	766	20,124	274
1938-39	13,074	10,203	922	31,136	572
1939-40	5,383	6,791	191	14,086	224
1940-41	5,047	6,268	581	14,714	588
1941-42	7,166	5,143	139	7,177	475
1942-43	8,288	2,519	250	7,842	170
1943-44	9,964	1,915	312	12,690	225
1944-45	19,580	3,360	843	15,690	419
1945-46	26,510	4,212	801	26,427	317

[1] Not available.

Compiled by Office of Foreign Agricultural Relations.

many of the laborers are Paraguayans. In the southern part of the belt, yerba-maté producers have formed fixed settlements, grouped around drying plants. Misiones is a pioneer territory which has been settled by immigrants from a large part of Europe, and from Uruguay, Paraguay, and Brazil.

THE LIVESTOCK INDUSTRY

Cattle

Beef.- Cattle are raised throughout Argentina (*8*), but few are found in southern Patagonia (fig. 27). The greatest concentration is on the Pampa and in Mesopotamia which, together, contain approximately 90 percent of the nation's 33 million head of cattle - both beef and dairy types.

The cattle belt in this region may be divided into three parts: One for breeding centered in the humid (eastern) Pampa; one for feeding, mainly in the relatively dry alfalfa area; and one for dairying, scattered about the cities. Ranges are fenced in the cattle belt; this permits controlled breeding and prevents, to a degree, overgrazing. Pastures have special importance, not only because they are so extensive in area, but also because the cattle and sheep industries are almost exclusively grazing industries. Beef is raised and finished exclusively on pastures in Argentina, whereas in the United States a significant portion is range-raised on pasturage in the far West and finished on grain in Midwest feed lots. Only in times of extreme drought is corn used to fatten beef in Argentina. Depending to this extent on pasture, the kind, quality, and number of livestock in different areas are determined in a large measure by the quality of the pasture grasses. Hence, livestock raising is concentrated on the Pampa and in Mesopotamia. Two and one-half acres of good pasture will carry an animal in many sectors.

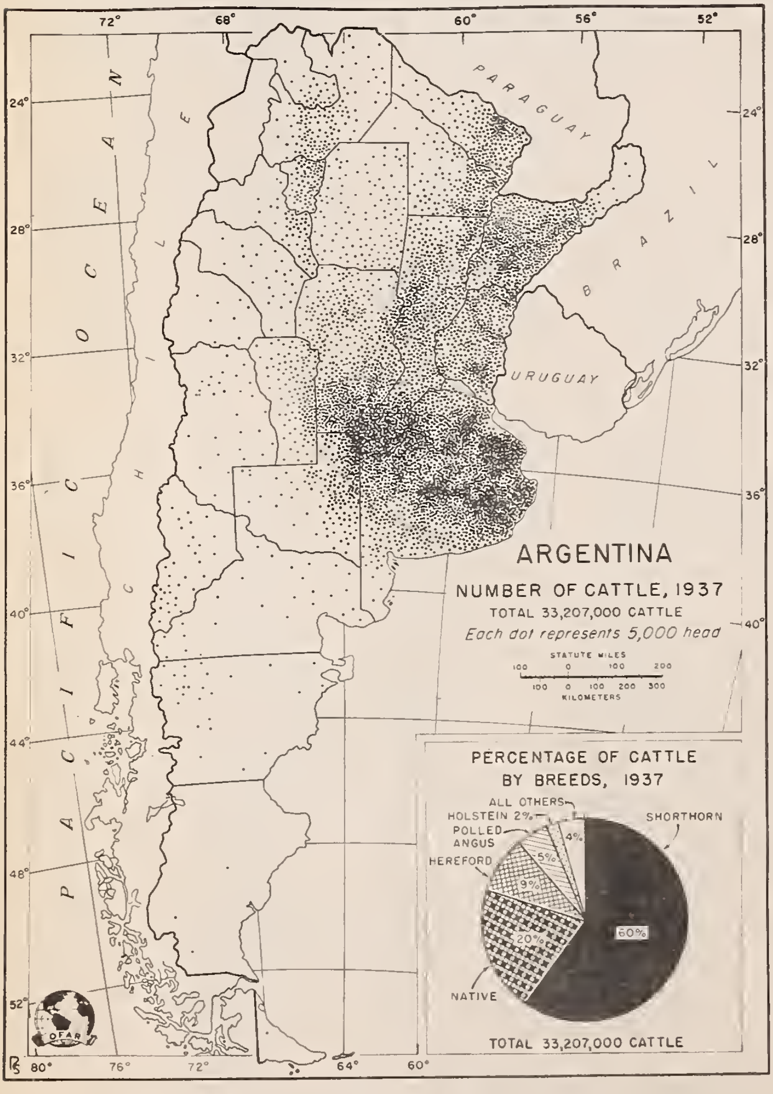


FIGURE 27.- Map of Argentina showing the distribution of cattle, 1937, and the percentages of total by breeds.

In the early days, lack of water was a problem. Few streams occur on the Pampa, and in times of drought they disappear. Nowadays windmills pump water from wells into storage tanks in much the way as on the arid western ranges of the United States. The mild climate of the cattle belt permits year-round outdoor grazing. Snow seldom falls, and killing frosts are infrequent. Buildings are not needed to shelter the animals.

Despite the many advantages found in the cattle belt, there are a number of hazards. In subtropical Argentina north of parallel 30° S., the cattle fever tick is prevalent. After a prolonged drought anthrax often occurs widely. The highly contagious foot-and-mouth disease, locally known as *aftosa*, is the most serious hazard. It is most prevalent in the northern part of the cattle belt, where it causes loss of weight and some deaths among the animals. Rotation of pastures and isolation of infected herds help control the spread of the disease. Although used, the effectiveness of vaccines for immunization is questionable. Because of the prevalence of this disease in Argentina, the United States prohibits imports of live animals, or of fresh, chilled, and frozen meats, which originate there. Canned meat and, under certain conditions, cured meat are permitted entry.

As to breeds, Shorthorn blood predominates, followed by native (known as criollo), Hereford, and Polled Angus. The relative percentages of these animals are shown in figure 27, but it should be pointed out that breed-distribution diagrams for cattle, sheep, hogs, and horses show predominating blood and do not indicate the total numbers of purebred animals, which are less than the percentages indicated. In the Province of Buenos Aires, the Shorthorn is the predominant purebred stock. In the warmer and more humid Mesopotamia area, the Hereford predominates. In the cooler climate of the south, the Aberdeen Angus is most numerous.

Cattle are raised to 2 years of age on farms located in the breeding belt of the humid eastern Pampa. They are pastured on native and improved native pastures in spring and summer (September to May) and upon oats, rye, sudan, and sometimes corn and wheat pastures in the fall and winter (June to September). Then, they are transported to the alfalfa winter-feeding area in the western Pampa for a 6-month to 1-year fattening period before being shipped to market.

The cattle belt is characterized by large-scale tenant-operated enterprises. About 80 percent of the cattlemen are tenants, most of whom pay cash rent. The tenants own breeding herds, the working capital needed in their operations, and in most cases the houses in which they reside. The finest purebred cattle are produced on administration-operated estates which represent the holdings of the true estancieros. Most of the large estancias are operated by paid managers.

An integrated railway system connects the cattle-producing regions with the slaughterhouses and packing plants in the environs of the cities of Buenos Aires, La Plata, and Rosario. Cattle shipped from farms are seldom in transit more than 20 hours. The nearness of the producing regions to these ports facilitates the export of beef. About 7 to 8 million head of cattle are slaughtered yearly, producing about 4 billion pounds of beef and veal of which, roughly, 1.5 billion pounds are exported (fig. 8). Thus, annual domestic consumption is about 2.5 billion pounds, which places Argentina among the world's largest meat consumers on a per capita basis.

Dairy.- Prior to World War I, Argentina imported large quantities of dairy products, but during that war, dairying expanded to such a point that an exportable surplus of casein, butter, and cheese was produced. Again during World War II an average of 41,000 short tons of butter, 54,500 short tons of cheese, and 24,800 short tons of casein were produced annually. The following quantities of dairy products were exported:

PERIOD	BUTTER	CHEESE	CASEIN
	Short tons	*Short tons*	*Short tons*
Average:			
1920-24	28,517	5,787	11,926
1925-29	25,205	430	18,832
1930-34	20,724	864	19,571
1935-39	9,286	1,920	19,058
Annual:			
1940	14,126	5,779	22,002
1941	15,809	13,251	36,365
1942	15,873	9,506	17,477
1943	18,102	14,762	27,185
1944	19,415	11,004	39,148
1945	12,543	11,881	37,199

Prior to World War II, the United Kingdom, Germany, France, and the United States absorbed most of these exports, but during the war the United States and the United Kingdom were the chief consumers.

About half the milk supply comes from Buenos Aires Province, since rapid transportation, the concentration of population, and access to the world market through the port of Buenos Aires make it a favored region. About a quarter comes from the Provinces of Santa Fé and Córdoba. Portions of cattle estancias have been converted into specialized dairy farms in Buenos Aires Province, but a large part of the milk in this Province comes from the beef-cattle-breeding belt in the humid eastern Pampa. In the latter belt, beef cows are milked during their period of flush milk production. Yields are low; the animals are milked in the fields; and uncooled milk is transported from the fields to dairy plants in the cities. Even on dairy farms, animals generally are milked once a day on range, and the milk is not cooled. Thus, when judged by United States standards, milk handling is crude. In the Province of Santa Fé, dairy production is a part of diversified-farming operations on small farms.

Poultry

In 1937, Argentina had 43 million chickens, 1.7 million turkeys, and 1.7 million ducks. An estimate, based on the Agricultural Census of 1942, placed the number of chickens at 48 million in that year. A large number of small incubators are in use having a total estimated capacity of 2 million eggs. An accumulation of grains during World War II stimulated the output of poultry products. However, output in 1946 and 1947 declined because of high feed prices. It was estimated that 1.5 million 30-dozen cases of eggs were exported in 1946. During World War II a sizable egg-dehydrating industry was developed. Dried-egg exports for 1942, 1943, and 1944 were 3,000, 4,600, and 4,000 short tons, respectively. Over 2 million dressed chickens and turkeys were exported annually prior to World War II. Normally, Great Britain absorbs most of the egg exports, and countries on the Continent of Europe, take the poultry.

Poultry farms are located primarily near the Federal Capital and near the large cities in the Provinces of Buenos Aires, Córdoba, Santa Fé, and Entre Rios. There are some large poultry farms, but the poultry industry is comprised mainly of small-farm enterprises. The chief breeds are the Rhode Island Red, Leghorn, Plymouth Rock, and Wyandotte.

Peak egg production in Argentina occurs at the time of lowest production in the Northern Hemisphere because of the reversal of seasons. It occurs in the spring months of September, October, and November when production is low in the United States. The annual molt occurs in March, April, and May in Argentina. Thus, shell-egg exports reach Northern Hemisphere markets when prices are highest. Exports of dressed young Argentine chickens and turkeys are heaviest in March, April, and May.

FIGURE 28.- Turkeys are gaining in importance, and are being shipped, dressed, to Europe.

Hogs

For one and a half decades prior to 1939 the number of hogs in Argentina stayed at about 4 million head, and the number slaughtered annually was about half that figure (9). Between 1939 and 1944, however, the number on farms and the number slaughtered more than doubled. Pork and lard exports were insignificant until 1940, when a sharp uptrend started (fig. 9). This wartime increase occurred chiefly because Britain demanded meat rather than grain. Grain consequently was cheap in Argentina during the war, and it could be converted profitably into pork and lard. Production in 1946, however, declined to 40 or 50 percent of that of the previous year as a result of heavy liquidation of hogs following a short 1945 corn harvest and narrowing hog-feed ratios after midyear 1945. The hog-feed ratios were influenced by the European food crisis which resulted in a rapid increase in Argentine grain prices, starting in the fall of 1945.

Hog production centers in the Corn and Wheat Belt, and the leading breeds are the Duroc-Jersey, Berkshire, and Poland-China (fig. 29). A number of large hog farms are located in the Provinces of Buenos Aires, Córdoba, and Santa Fé.

Sheep

In 1945, Argentina had 56,000,000 head of sheep and was probably the world's second most important sheep-raising country after Australia. Sheep are distributed throughout the nation (fig. 30). There are three centers of production: In Mesopotamia, on the Pampa, and in Patagonia. In the Provinces of Buenos Aires, Corrientes, and Entre Rios, sheep are raised principally for mutton and lamb. The Lincoln breed predominates in Buenos Aires and the Romney Marsh in the other two Provinces.

Sheep raising is the chief industry in Patagonia (fig.17), where about half the nation's wool is produced. The animals are raised throughout the Territories of Neuquén, Río Negro, Chubut, Santa Cruz, and Tierra del Fuego, except at the higher elevations of the western Andes. Most ranches comprise at least 1,500 acres and some have over half a million. Mutton and lamb production centers in the south, where several packinghouses and meat-freezing plants are located, which export meat to Europe. As previously stated, wool production centers in northern Patagonia. The greatest concentration of sheep is found just north and south of the Strait of Magellan where the greater prevailing rainfall induces a heavier growth of pasture grass. The Romney

Marsh and Corriedale breeds predominate in the Strait region because they can withstand the cold, winds, rain, and fog which characterize the area's climate. North of this region, semiarid conditions result in sparse herbage. Thus, the carrying capacity of the land is low, necessitating a large pasture area per animal. In northern Patagonia sheep are grazed on the vast elevated, treeless plateaus during the winter (June-August), but in the summer they are generally moved to the slopes of the Andes, where water is more plentiful. The Merino is the more common breed in this region.

Stormy, shifting, cloud-laden winds blow steadily all year in Patagonia, and the winds are bitterly cold in winter. Frequently a haze of dust on the dry plateau surfaces limits visibility. The ranch houses are generally located in the protecting canyons that bisect the plateaus from east to west and afford protection from the elements.

In normal times, Argentina slaughters about 8 million head of sheep and exports, on the average, about 150 million pounds of chilled and frozen mutton and lamb and 300 million pounds of wool (fig. 10). Of the total output, fine crossbred wools represent about 31 percent; coarse crossbred wools, 27 percent; medium crossbred wools, 24 percent; merino wools, 14 percent; and criollo and mestizo wool, 4 percent.

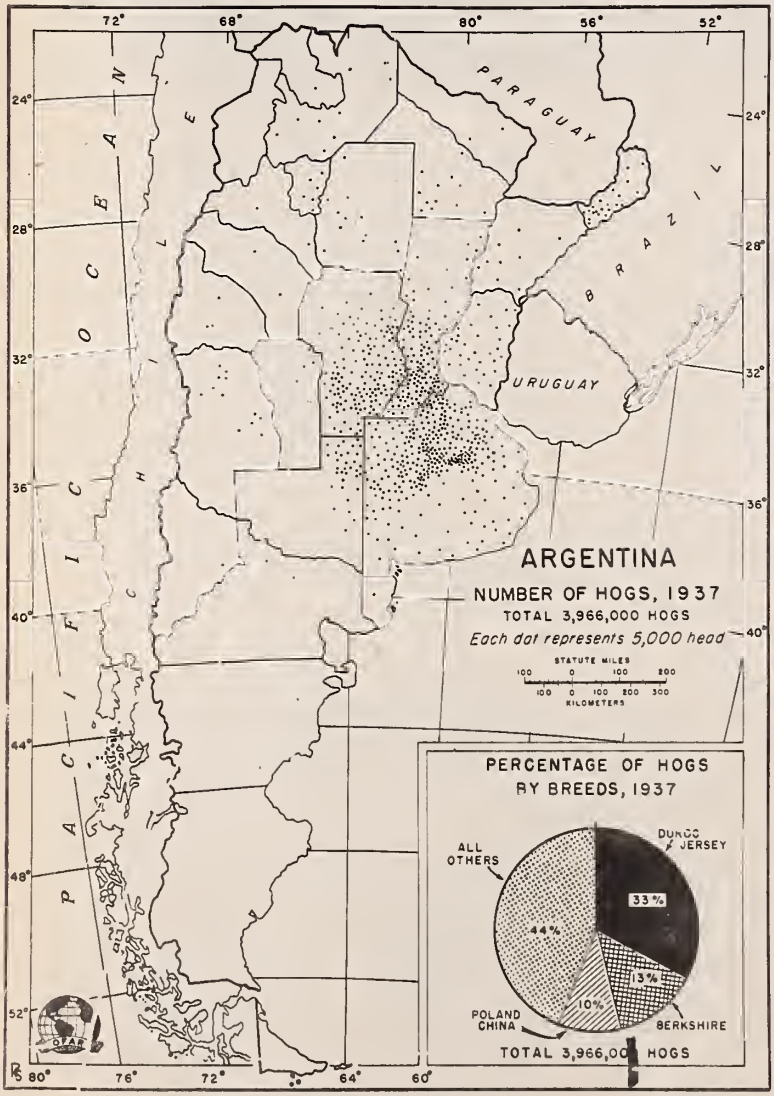


FIGURE 29.- Map of Argentina, showing the distribution of hogs, 1937, and the percentages of total by breeds.

Horses

Argentina is the third greatest horse-raising country in the world, having had over 8 million head in 1937. Between 1937 and 1942 this number decreased by about 1.5 million owing to increased mechanization and perhaps to a small extent to an increase in exports of the animals to European countries preparing for, or engaged in, war. Some horses, horse meat, and hides are normally exported, but Argentina's horses are employed primarily for farm work, ranching, and transportation.

About one-third of the horses are in Buenos Aires Province, and another third are in the 3 Provinces bordering Buenos Aires on the north (fig. 31). A sturdy, small native (mixed-blood) ranch horse is used extensively. Percheron, Carrera, Clydesdale, and Shire are the predominating draft breeds. Argentina is world famous for its race horses and polo ponies. On some estancias - many of which have from 1,000 to 2,000 horses - a specialty is made of breeding race horses and on others, draft horses. As a rule, farm horses are kept on pasturage and are not fed grain. They are usually worked hard for half a day, after which fresh horses are used.

Mules and asses are commonly used in the subtropical and mountainous regions of Jujuy, Santiago del Estero, Catamarca, Salta, and Córdoba.

TRANSPORTATION

Argentina has the best transportation system on the South American Continent. The city of Buenos Aires serves as a hub for the entire Argentine system somewhat as Chicago does in our country. The system is composed primarily of an extensive network of railways, which provide relatively inexpensive transportation for moving farm commodities to the major ports of Santa Fé, Rosario, Buenos Aires, La Plata, and Bahía Blanca. All important cities in the nation are linked by it.

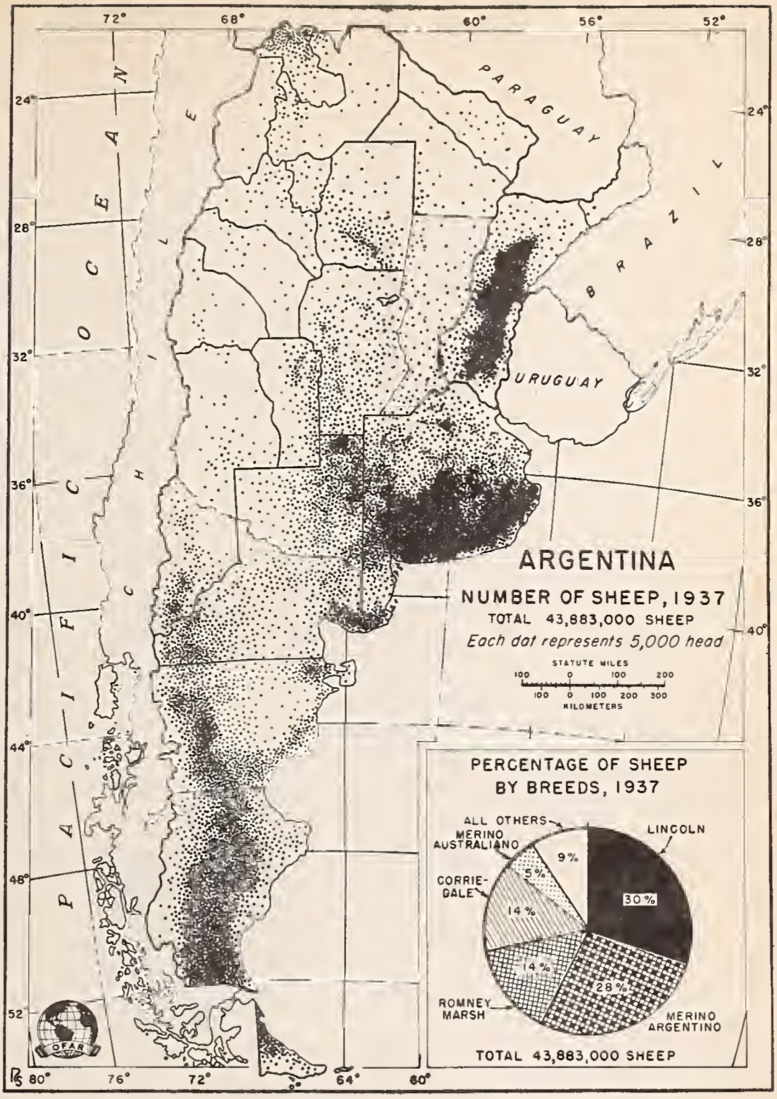


FIGURE 30.- Map of Argentina, showing the distribution of sheep, 1937, and the percentages of total by breeds.

Until recently, highways served mainly as feeder lines to railheads and consequently complemented rail transportation. Since 1939, when a huge highway-construction and paving program commenced, trucks have tended to compete with rail transport, and the two are no longer strictly complementary.

Air transportation has lagged in Argentina because of the adequate surface-transport facilities. Thus, the nation is not so advanced in this medium as are some of the other Latin American nations. Maritime transportation has been developed to a high degree on the La Plata River system to link the northern part of the country with Buenos Aires and along the coast to the south for communication with the southern sheep- and petroleum-producing areas.

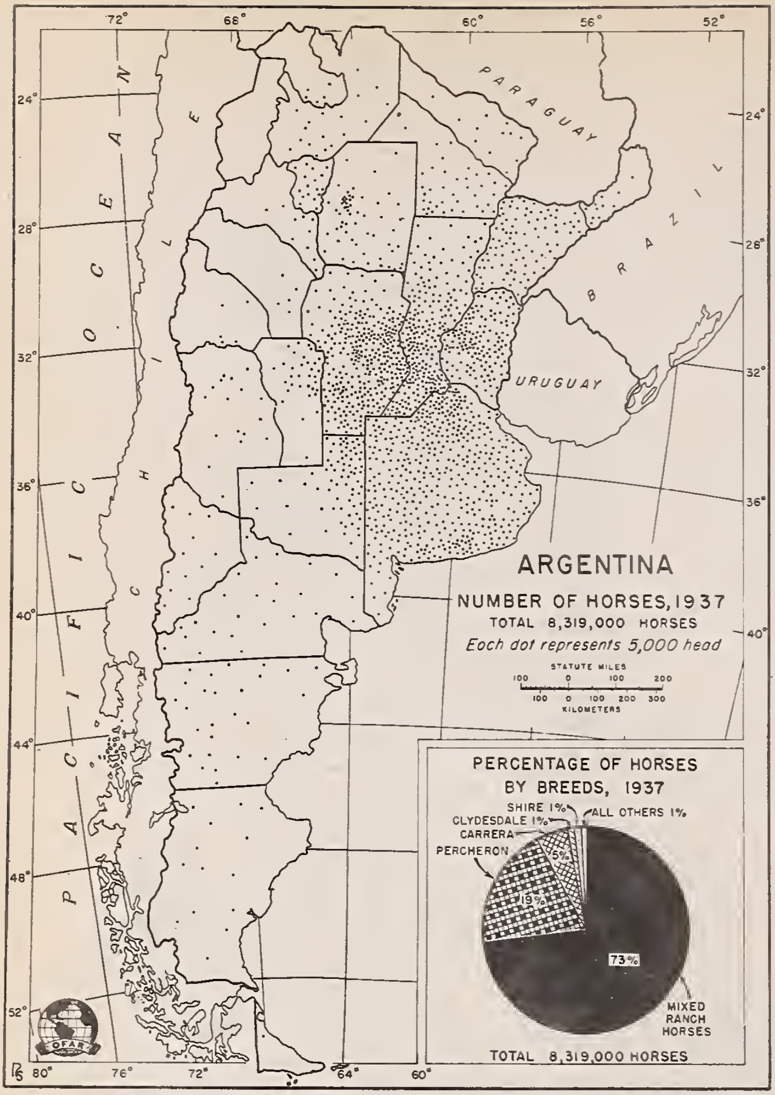


Figure 31.- Map of Argentina, showing the distribution of horses, 1937, and the percentage of total by breeds.

Railroads

Argentina has 27,000 miles of rail track, making up the most extensive rail system found in any South American nation. In fact, this system accounts for almost half the continent's total trackage of 62,400 miles but is only a fraction of the 248,000 miles in the United States. The railway system represents an investment of over a billion dollars. From the city of Buenos Aires, a network radiates throughout the Pampa, and principal lines extend to the larger cities of the north, northwest, and west. The system is so extensive in Buenos Aires Province that no place is more than 25 miles from a rail line. The cities of Rosario, Santa Fé, and Bahía Blanca also serve as important railway centers.

Argentine lines connect at the borders with others that run to the capitals of Chile, Bolivia, and Paraguay. Several additional Argentine lines connect with other Chilean railways, and a number connect with Uruguayan and Brazilian lines at the Uruguay River. (For principal Argentine rail lines, see fig. 1.)

Nearly all Argentine railroads are now owned and operated by the Government. As a result of wartime-accumulated credits in Great Britain, the Argentine Government purchased British interests in the domestic lines in 1946, Until then, the British owned four of the five major railroad systems, and the Argentine Government operated only 30 percent of the rail mileage. This was located in the extreme south and north, areas in which private lines could not operate at a profit but which the Government wanted settled.

Because all maintenance parts and new equipment must be imported, the railways deteriorated severely during World War II. Consequently, difficulty has been experienced in moving goods to ports. Huge orders have been placed with foreign manufacturers (chiefly the United States) for new, modern equipment which, when delivered, will improve the situation. The Argentine lines have been handicapped by varying gages, which the Government plans to standardize.

During the recent war, the railroads suffered from a lack of fuel. Ordinarily, a good-grade coal is imported from Great Britain, but imports could not be made from that source during World War II. As a substitute, coal imports were made from Brazil, Chile, and the Union of South Africa, but they were not of the type or in the volume required. The locomotives operated chiefly on petroleum - frequently mixed with linseed oil - domestic wood, and whatever coal could be imported. Oilseed cakes and corn were also used as fuel. Red quebracho was the most suitable firewood for locomotives. A large part of the rolling stock of several lines was operated in hauling firewood from the northern quebracho-bearing forests to the rail lines.

Highways

There has been a material expansion in the highway system in recent years. In 1930, there were 300 miles of paved highways in Argentina, and in 1940, 13,360. Such highways now extend from Buenos Aires southward to Mar del Plata and Bahía Blanca, westward to the City of Mendoza, and northwestward to Córdoba. A minor system of paved highways centers in Santiago del Estero, a short paved highway is at Tucumán and another at Salta. There is an extensive system of all-weather roads in the northwest, west, and in Patagonia.

With the extension of the highway system, trucking has become an important means of transportation. Trucks are operated in fleets by the rail lines; by large independent trucking concerns, which may operate either privately or under contract with the railroads; and by small truckers owning one or two vehicles. An increasing volume of grain and livestock is being transported to the ports and packinghouses by truck.

Waterways

Argentina has a 1,600-mile-long coast line, including the Plate estuary, but there are few natural harbors. Nevertheless, adequate port facilities have been constructed at great national expense to accommodate the tremendous sea-borne trade in farm products. To overcome the lack of natural harbors, artificial basins have been built, and the heavily silted Plate estuary and Paraná River are constantly dredged.

Buenos Aires and Enseñada, the port of the city of La Plata, receive the greatest number of oceangoing ships, several thousand annually, in fact. When the port of Buenos Aires began to be overcrowded as a result of the heavy movement of cargo through it, the city of La Plata's port, or Enseñada, was developed. It is located on the Plate several miles below Buenos Aires and serves as a secondary shipping point, relieving some of the congestion at Buenos Aires.

Buenos Aires has a larger movement of traffic than any other port in the Western Hemisphere, except New York, and its outgoing cargo consists largely of farm products. The harbor is entirely artificial and consists of a series of connected basins with three approach channels 27 to 31 feet in depth. There is an aggregate of 6 miles of dockage served by hydraulic and electric cranes. Government warehouses in the waterfront area cover some 110 acres, and the water front is served by 75 miles of railway track. There are a number of grain elevators of huge capacity. A large proportion of the nation's export products are transported to Buenos Aires by rail, truck, river steamer, and barge for shipment abroad. River traffic comes down the Paraná from Santa Fé and Rosario.

Rosario is the nation's second most important port and is one of the world's greatest grain-export centers. Grain and oilseed arrive here from the port of Santa Fé, which serves the northern and western Pampa farther upstream. They also arrive by rail, since Rosario is the hub of a great rail network serving the heart of the Pampa. Some of Rosario's outbound cargo moves down to Buenos Aires for transshipment, but some of it is loaded on cargo vessels for direct transoceanic shipment. The port constitutes a continuous series of wharves over 7 miles long, with a water depth fluctuating from 25 to 37 feet. The wharves are divided into sections, each handling one of the following: Imports, exports, river and coastwise traffic, and inflammables.

Santa Fé is the northernmost port on the Paraná River accessible to oceangoing vessels. This port actually is not on the Paraná, but on the Santa Fé River, 4 miles from the Paraná's main channel. Both the harbor and channel are dredged constantly in order that vessels drawing up to 20 feet of water may be accommodated.

A good natural harbor on the Atlantic Ocean is located near Bahía Blanca, 534 miles by sea below Buenos Aires. Bahía Blanca is actually a few miles inland on a shallow river, but it is served by several subports at the head of a bay, which is sheltered from the open sea by a chain of islands. These subports serve the southern Pampa and the farming regions on the Río Colorado and Río Negro, where fruits are produced for export. Bahía Blanca is an important railhead, through which move large quantities of grain, wool, and other farm goods for export. The Atlantic port of Mar del Plata north of Bahía Blanca, is used as a naval base but not as a commercial port.

Several small ports are located on the Patagonian coast, which are visited by coastwise steamers. From them, railways run into the interior. Comodoro Rivadavia is a petroleum-shipping port. San Julian is an important shipping outlet for the southern sheep region, and considerable wool also leaves the port of Río Gallegos.

One of the world's great inland-water transport systems is formed by the La Plata, Paraná, Uruguay, and Paraguay Rivers and their tributaries. A large volume of freight is shipped on barges and steamers over these streams, which have been closed to foreign ships since 1910. A number of Argentine, Brazilian, and Uruguayan shipping companies operate on them. Sharp competition exists between the Argentine rail and ship lines. In 1944, the Argentine Government ordered 50 powerful barges for operation on the Paraná and Uruguay Rivers to supplement existing vessels.

Other rivers which are utilized for transport, but to a less extent than those mentioned above, include the Bermejo and Pilcomayo in the Chaco region; the Río Negro and its affluents, the Limay, and the Neuquén in Patagonia; and the Río Gallegos and Santa Cruz still farther south in Patagonia.

Coastwise shipping is the chief means of transportation between northern Argentina and Patagonia. Shipping is hazardous, however, in the southern coastal waters because of the prevalence of storms, high seas, and poor port facilities. The Government has subsidized the lines serving the southern ports because of these difficulties. By Argentine law, only ships flying the national flag may sail the coastal waters. Maintenance of shipping to Patagonia is of upmost importance to the sheep industry which it supports. Supplies must be carried in by coastwise steamers, and some of the wool and frozen mutton are carried out by them. However, some of these move directly overseas in oceangoing vessels.

After World War II started, many vessels serving coastwise shipping were diverted to the trans-Atlantic sea lanes because of the higher revenue afforded. To maintain the necessary maritime communication with Patagonia, the Government forces coastwise vessels to continue to operate in that capacity or come under state ownership.

Most of Argentina's foreign commerce is carried by sea; only a relatively small proportion moves across the borders by land. Most oceangoing vessels calling in Argentine ports are of foreign registry. However, as a result of World War II, the Argentine Government established the State Merchant Fleet. Some 37 vessels were acquired during the war and incorporated into the fleet. These ships, which sought haven in

Argentine ports were acquired by purchase, or expropriation, from Axis nations. About half were subject to repurchase by the former owners after the war ended.

The fleet is serving the nation well. In many bilateral trade treaties, Argentina specifies that a stated proportion of the trade must be carried in its state vessels and at certain rates. The ships operate in the Pacific and the Atlantic, and four are in the Patagonian coastwise service. Argentina definitely is becoming an important maritime nation.

PROCESSING OF FARM AND FOREST PRODUCTS

The major manufacturing industries, because of the serious lack of mineral resources, are largely limited to the processing of farm and forest products. Meat packing, wheat-flour milling, sugar refining, vegetable-oil extraction, textile manufacturing, leather making, tobacco processing, wine making, and, of late, the washing and scouring of wool represent principal activities. They require relatively small quantities of fuel.

Generally about one-fifth of the nation's laborers are employed by plants processing foodstuffs, beverages, and tobacco. These enterprises account for about a third of the national industrial income. They draw upon domestic raw materials almost entirely, supply most of the needs of the domestic market, and produce most of the country's processed exports. Meat packing is the most important industry in this grouping. From 5 to 8 million cattle, 6 to 12 million sheep, and 1 to 4 million hogs are slaughtered annually (figs. 8, 9, and 10). The wheat-milling industry is next in importance.

Meat Packing

Until 1883, Argentine beef was shipped on the hoof and as jerked beef. In that year, however, the erection of the first refrigeration plant in Buenos Aires and the utilization of refrigerated ships made it possible for Argentina to start supplying the British market with quality meat. Foreign capital was attracted by this new industry.

At present, 19 large packinghouses (*frigorificos*), located at Buenos Aires, La Plata, and Rosario, handle large quantities of beef, veal, mutton, lamb, pork, lard, and various byproducts. The larger of these houses are owned by either United States or British interests. They control 85 percent of the country's beef-export trade and prepare about one-third of the meat consumed by the domestic market.

In 1934, the Government organized the Argentine Corporation of Meat Producers, a Government-sponsored, producer-owned corporation which slaughters and markets cattle for producers in competition with packinghouses owned by the United States and Britain.

The major packinghouses are located along the water front to enable direct transfer from the houses' refrigerated chambers to shipboard. Large volumes of meat are prepared and exported. From 40,000 to 50,000 people are employed by the packing industry.

Prior to World War II, most of the export beef was shipped chilled, at a temperature slightly below 30° F., and it was consumed immediately upon arrival. The British market, which takes the majority of Argentina's beef exports, prefers chilled beef. The European market, however, prefers frozen beef. During World War II, Britain and the United Nations took meat that was boned and frozen to save shipping space. Small quantities were also exported in dehydrated form.

Wheat Milling

In 1941, 202 wheat mills processed over 2.3 million short tons of wheat, 21 percent of which, however, represented the output of 13 large mills in the city of Buenos Aires. More than 85 percent of the wheat is milled in the Provinces of Buenos Aires, Santa Fé, and Córdoba. The two largest mills in the country are located in Córdoba. Most of the flour, the production of which totals 1.6 million short tons annually, is used domestically, only 3 percent of the output being exported.

Manufacture of Dairy Products

Since World War I, the manufacture of dairy products--chiefly butter, cheese, and casein--has assumed the proportions of a major industry. Nevertheless, typical establishments are small with little modern equipment. Of the 1,500 plants processing dairy-products listed in the 1941 industrial census, 57 large establishments accounted for 44 percent of the total production.

Sugar Refining

Sugar is refined mainly by 41 large plants that employed about 7,000 workers in 1941. Production is usually sufficient to provide the country's annual consumption requirements of 518,000 short tons. One large refinery is located in Buenos Aires, and the others are in the cane-producing regions. The largest number of mills are located in Tucumán Province, but a few are found in the Provinces of Salta, Jujuy, and Santa Fé, and in the Chaco Territory. In these northern Provinces, one mill is located at Tabacal, one at Ledesma, and another several miles north of Resistencia. One or more are located in the northern part of Santa Fé Province near the Paraná River.

Vegetable-Oil Crushing

The extraction of linseed oil was greatly accelerated during World War II (fig. 22) to supply the export market and domestic fuel needs. During the war, when petroleum imports were limited, linseed oil was burned to supply heat and power, and it was used for diesel operations. Normally most of the oil is exported for paint and varnish manufacture and other uses. Exports of flaxseed, and linseed oil in seed equivalent, declined sharply during World War II (fig. 7), and exports were prohibited for several months in 1944 and 1945.

The installation of seed-crushing equipment during the war will mean that, in the future, Argentina will export more oil and less seed. A part of the oil output will be absorbed by the domestic market. Prior to World War II, flaxseed was exported and linseed oil was imported, because seed was not crushed locally.

The major mills are located near the city of Buenos Aires; in the region producing flax and sunflowerseed in the Provinces of Buenos Aires, Córdoba, Santa Fé, and Entre Rios; and in the cotton-producing section of the Chaco. Small plants for crushing olive and grape seed are located near the city of Mendoza.

Textiles

Textile production is the second largest manufacturing industry after food, beverage, and tobacco manufacturing. The industry fills about three-fourths of the domestic textile requirements. It supplies the entire requirement of low-count cotton fabrics, but cotton materials of finer count must be imported, because the short fiber of Argentine cotton does not lend itself to the weaving of the higher quality goods. Cotton-textile production has increased manyfold since 1935, when 26 percent of the domestic consumption was produced by Argentine mills. They now produce about three-quarters of the domestic requirement.

A number of mills produce crepes, satins, prints, and upholstery fabrics from imported silk. A rayon plant is controlled by Duperial Chemicals Ltd., a combine owned by du Pont and Imperial Chemicals. This enterprise supplies about 80 percent of the viscose-rayon fiber used by Argentine textile manufacturers.

The Argentine wool-knitting industry consumes from 12 to 15 percent of the nation's wool and supplies the nation with all its wool yarn. About 13,000 short tons of wool cloth were produced in 1941. Argentina is fitted to produce about 10,000 short tons of wool blankets yearly. Worsted fabrics, however, are imported.

The short-fibered Argentine flax is not suitable for textile manufacture[2] Thus, imported yarns are used in linen weaving.

Prior to World War II, 150 million burlap bags were produced annually in Argentina from imported jute. These are used by packinghouses, grain dealers, and quebracho exporters. Large quantities of hemp are used for binder twine. The handling and storing of grain in sacks creates a great demand for jute. Generally about 10,000 tons of jute and 75,000 tons of burlap cloth are imported. Thus, jute and burlap together constitute one of Argentina's chief import items.

Experimental plantings of jute have been made in the Territory of Misiones and on irrigated lands in Jujuy. Yields are fair but probably not sufficient to pay for the added cost of irrigation where it is needed. Jute must compete for land with sugar, tobacco, and other high-valued irrigated crops.

Quebracho Extracting

The extraction of tannin from quebracho is an important branch of the Argentine forest industry. The major quebracho-producing region is near the Paraná and Paraguay Rivers in the Chaco and Formosa Territories. The best stands of the quebracho tree, yielding about 25 to 30 percent tan-

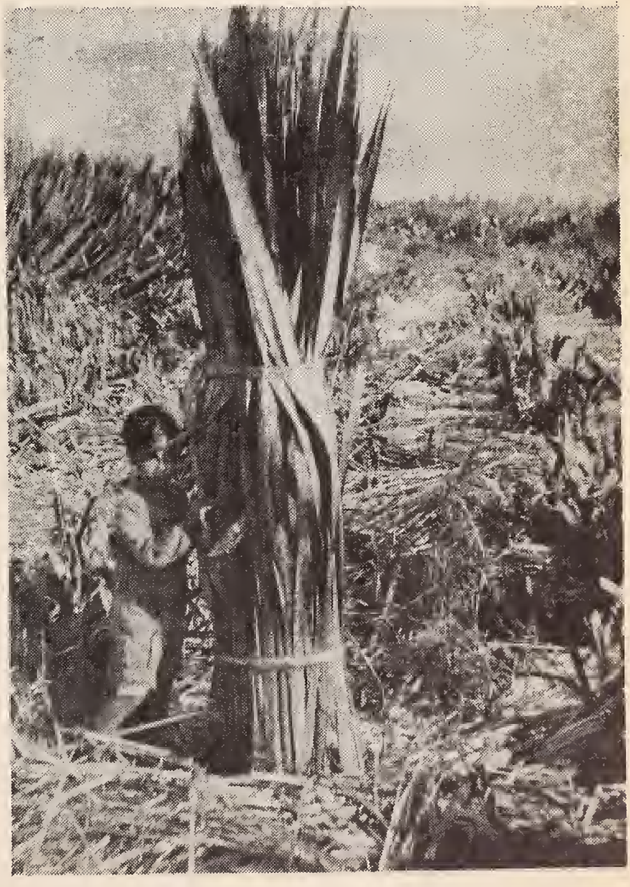


FIGURE 32.- Cutting the leaves from 4-year-old New Zealand flax.

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[2] It is used, however, for the manufacture of paper pulp.

nin, are found near the Paraná River. The tanning factories are located near this river. There are 16 extracting plants, most of which employ over 100 workers each. The industry is dominated by the *Forestal Argentina, Ltda.*, a firm controlled by British capital, which exercises a monopoly over the production and marketing of quebracho.

Leather and its Products

In addition to being one of the world's chief exporters of hides, skins, and tannin, one of Argentina's major domestic industries is leather tanning and the manufacture of leather products. Because of poor tanning techniques, however, Argentine leather goods are usually of mediocre quality. Production is barely sufficient to supply domestic needs of the type leather that is manufactured. Small amounts of high-grade leather are imported.

From 1920 through 1945, an average of 163,000 short tons of hides and skins were exported annually. Only a small proportion of this consisted of the tanned product. In 1939, 205 tanneries were reported in Argentina, located chiefly in or near the city of Buenos Aires.

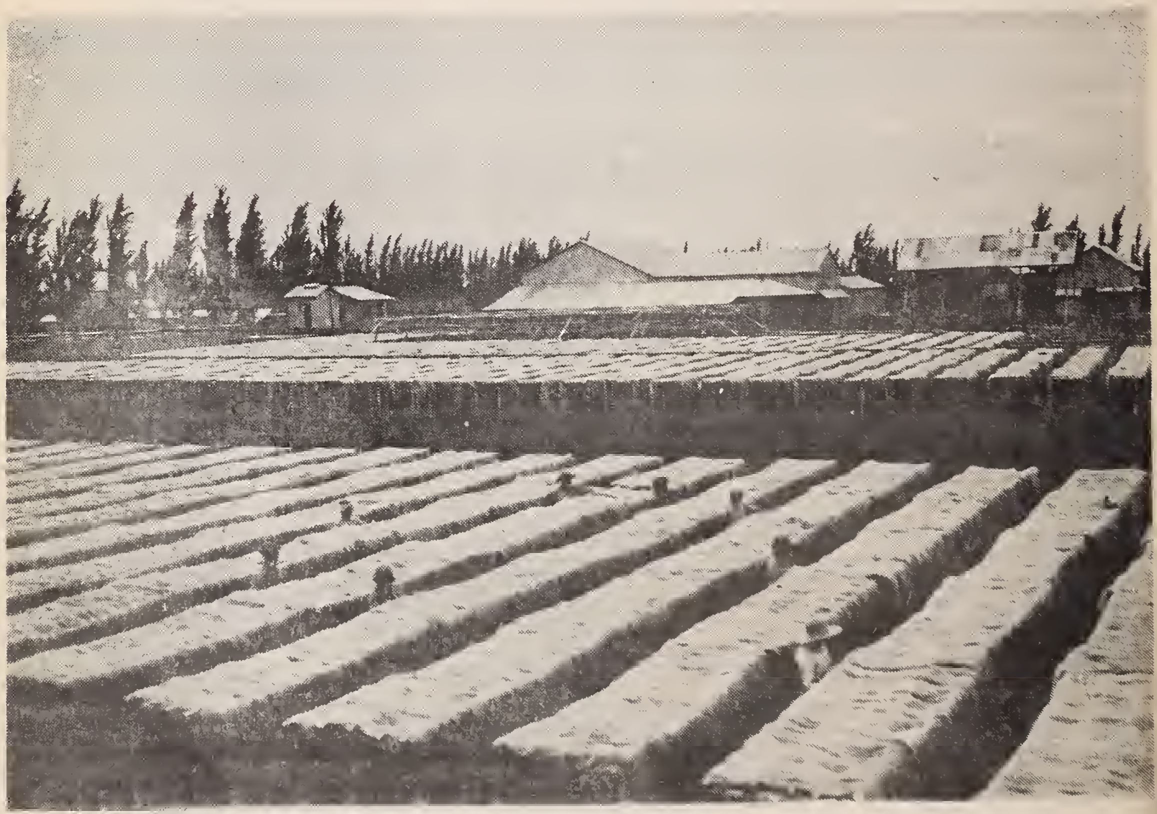

FIGURE 33.- Drying and processing New Zealand flax fiber. This fiber is grown and processed in the Delta of the of the Paraná River. It is a coarse fiber suitable for cordage but not for weaving linen.

Other Industries Based on Agriculture

The production of pyrethrum flowers is expected shortly to become sufficient in quantity to supply Argentina's requirement of this material for the manufacture of insecticides. Some 500 short tons of pyrethrum are imported annually. Production of essential oils is increasing, including peppermint, lavender, fennel, grapefruit, orange, lemon, eucalyptus, and anethol. A number of biologicals are prepared from packinghouse-derived animal glands and tissues. The only fur produced in Argentina of any importance is nutria, the plucked fur of the coypu which is grown domestically. The coypu is a South American aquatic rodent. Large numbers are reared in captivity for the production of the fur.

Argentina is one of the world's major producers of tallow, a byproduct of the huge meat-packing industry. Tallow is used extensively in the manufacture of soap. In 1941, 252 establishments produced over 110,000 short tons of washing soap, 1,200 short tons of soap powder, 800 short tons of industrial soaps, 6,000 short tons of glycerine, and 6,600 short tons of fatty acids.

The distillation of industrial alcohol is undertaken chiefly as an associated enterprise in the refining of sugar and fermentation of wines. A number of distillation plants are located in the sugar- and wine-producing zones of the northwest. Some of the largest industrial-alcohol distillers are located in Buenos Aires. Molasses, crushed-grape residue, and corn are the principal ingredients. The Government plans the fullest possible use of corn as an ingredient in alcohol distillation in times of corn surpluses.

COOPERATIVE MARKETING

The cooperative-marketing movement became established in Argentina before the turn of the century and has expanded steadily. In 1913, there were 34 organizations; in 1919, 82; and in 1938, 278. In 1938, 138 cooperatives handled "mixed" commodities but mainly grains; 78, dairy products; 29, wine, fruits, and vegetables; 20, cotton; and 13, yerba maté and tobacco. There are also 7 insurance and about 7 credit cooperatives. Total membership exceeds 42,000.

Grain

Over a hundred of the cooperatives deal in grain. They perform many marketing services, including threshing, trucking the product to the cooperative and railway station, and supplying harvesting equipment. Grain is sold either in individual lots or collectively. In individual sales, the member's grain is delivered to the cooperative which sells it as an individual lot whenever the member gives instructions to this effect, and the money is given to the member at once. In collective selling, the grain is received and pooled. The organization decides when to sell and settles with the member at the end of the season after all the grain has been sold. If the member needs money in the meantime, the cooperative advances it to him.

Dairy Products

Cooperative creameries are very popular. Cream is produced as the major product, casein as a byproduct, and hogs are often raised as a means of utilizing buttermilk and waste dairy products.

When the member's milk arrives at the creamery each day, the quantity and butter fat content are recorded. At the end of the month, the member is paid in accordance with his record. An annual balance of the income derived from casein and hog sales is kept, and the member is paid in proportion to the business transacted with the organization throughout the year.

Other Products

The wine, fruit, and vegetable cooperatives are located in the oases in the west. Those handling cotton, tobacco, and yerba maté are located in the Chaco region. The cotton cooperatives have constructed cotton mills and cottonseed-crushing plants.

Cooperative Credit

Cooperatives may obtain credit from the Republic's Central Bank or National Mortgage Bank. The Mortgage Bank is authorized to make loans up to 25,000 pesos to cooperatives for the construction of warehouses, elevators, creameries, and for loans to members for the construction of dwellings and farm buildings. Tracts of land along railroads are given to the cooperatives by the Government for the construction of warehouses and elevators. These organizations are exempt from certain taxes.

FOREIGN FARM-TRADE POLICY

Prior to World War II, world market outlets for Argentina's large exportable surpluses of farm products were maintained by free-trading practices and without much governmental interference. The Government aided producers in times of economic crises by price support. Its exchange control favored farm exports, and international trading was abetted by trade agreements of most-favored-nation and bilateral types.

After the war started, and especially since it ended, state trading has been practiced to an increasing degree. Few other countries in the world regiment their foreign farm trade to the degree practiced in Argentina. The Government purchases the entire farm output of several commodities at fixed prices, allocates the trade

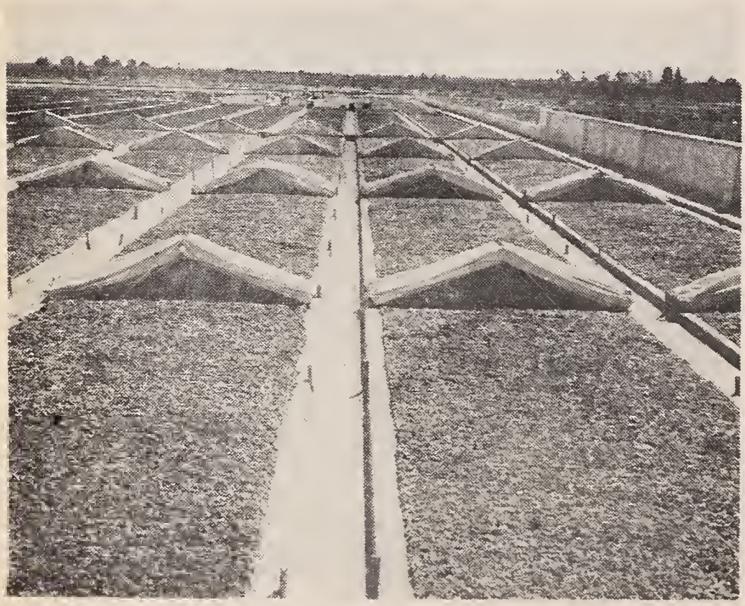

FIGURE 34.- Raisins, spread on concrete floors, to dry in the sunshine, in the Mendoza - San Juan section, Argentina ranks high as a world producer of raisins .

a margin for marketing services, and sells the entire exportable surplus to foreign buyers through its Trade Promotion Institute at margins favorable to the Government. The difference in buying and selling prices is great, and this margin is expected to pay a large part of the cost of the Government's 5-year plan which was inaugurated on January 1, 1947. One of the important objectives of this plan is to industrialize so as to export farm commodities in a processed rather than a raw state.

Methods of Trade Control

Foreign trade control is exercised by Government price fixing, Government acquisition of total supplies, the tariff, foreign-exchange control, quotas, permits, export and import embargoes, and, to an increasing extent, by bilateral agreements. Under bilateral agreements a certain proportion of the exportable surplus of one or more commodities is promised to other nations, frequently in exchange for specified imports.

The Tariff.- The tariff frequently is not so important as are exchange control, import-permit allocations, and rates of valuation of incoming commodities for tariff purposes. Until World War I, the tariff served chiefly for fiscal purposes, and the rate was adjusted in accordance with demands for revenue. Since then, its chief use has been for protection.

Ad valorem duties range from 5 to 50 percent of the official customs valuations. Duties of 5 to 20 percent usually apply to imports not produced domestically, whereas duties of 30 to 50 percent apply to articles competing with domestic manufactures. In 1944, a decree was issued authorizing the Executive to increase import duties to protect Argentine industries created or expanded during the war, promote industrialization in general, and prevent postwar "dumping." Since 1939, the Executive has been authorized to place quotas, where necessary, upon imports competing with domestic production, or to prohibit them entirely.

Foreign-Exchange Control.- Foreign-exchange control was adopted in 1931. From 1921 to 1931, the exchange value of the Argentine peso declined, depletion of gold reserves forced suspension of gold payments, and shortage of exchange made it increasingly difficult to service the foreign debt and acquire necessary imports. Moreover, the nation's exports were hindered by increasing tariffs, import restrictions, and other expedients imposed upon the world markets by the depression.

Thus, in 1931, exchange control was adopted to prevent further depreciation of the currency by the establishment of an Exchange Control Commission, which was later replaced by an Exchange Control Office, and this in 1941 by the Central Bank and an advisory group, the Exchange Control Committee. The chief feature has been a continuing use of multiple exchange rates. Since 1934, it has been necessary for an importer to obtain an exchange permit before placing an order abroad for certain commodities. These permits have been granted for imports, country by country, in an amount equivalent to the exchange made available by the purchases of Argentine products, less that needed to service the Argentine debt held by each such country. Because of profits accumulated from its export trade since the beginning of World War II, however, Argentina has since shifted from debtor to creditor status.

Stable purchasing rates for exchange have been maintained for exporters by the Central Bank, but the rates at which exchange is sold to importers are higher and variable. The margin between buying and selling rates has served as a source of revenue and has been used in part to subsidize farm exports when subsidies have been needed.

When the value of Argentine exports overbalanced imports during World War II, exchange regulations were applied more liberally in an effort to obtain hard-to-get imports. Since August 1946, export permits have been issued to channel commodities to countries from which Argentina obtains needed imports.

Exports of several farm commodities have been favored since 1934 by favorable exchange treatment. Exchange rates applicable to specific export commodities are changed from time to time. For example, the Central Bank's buying rate for foreign exchange originating from exports of dried fruits was recently raised to 398 pesos per $100 (U.S.), as compared with the customary official rate of 336 pesos. Exports of alfalfa seed, Sudangrass seed, and broomcorn, on the other hand, were reduced to the customary rate. Imports of interest to farmers continue to qualify for preferential rates of exchange. The differential recently has been made less favorable, however, on farm machinery. Importers in the last few months have been obliged to make exchange arrangements in advance and have been met by an increasing reluctance on the part of the Government to make exchange transactions on imports which might be manufactured in Argentina.

The Central Bank

The Central Bank of Argentina is becoming a policy-formulation and action center for agriculture and industry. By a decree of March 25, 1946, this bank was nationalized by the Government, and foreign exchange was placed under its control. It was empowered to exercise general supervision over the National Agrarian Council, the Grain Regulation Board, and several other national agricultural organizations, pending eventual transfer of their properties and assets to the Central Bank itself, the Industrial Credit Bank, the National Mortgage Bank, or the Argentine Institute for Trade Promotion.

The Central Bank is chiefly responsible for establishing the export-sale price of wheat and of certain vegetable oils. With the advice and consent of the Department of Industry and Commerce, it determines the quantities of certain commodities available for export. This measure, therefore, establishes a basis for state control, through the bank, over trading in various farm commodities.

Argentina is shifting from a debtor to a creditor nation. Almost immediately upon release of 644 million dollars in Argentine gold, which was held by the United States from 1944 until mid-1946, the Argentine Government proceeded to retire its external debt. It expected to be completely free of debt to foreign interests by September 15, 1946. Furthermore, the nationalized Argentine banking system recently has been extending an increasing line of credit to other South American countries.

Commercial Agreements

From 1933 until the war started in Europe, Argentina negotiated several bilateral trade agreements with European and other important trading countries.[3] Argentina had a favorable balance of trade with most of these countries. These agreements, in effect, granted a favorable Argentine exchange rate in reciprocation to countries applying minimum or intermediate tariff rates to Argentine products.

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[3] Since 1933, agreements with exchange provisions have been concluded with the following: United Kingdom, 1933; Belgium, 1934; Netherlands, 1934; Switzerland, 1934; Germany, 1934; Spain, 1934; Finland, 1935; Austria, 1936; Italy, 1937; Czechoslovakia, 1937; Hungary, 1937; France, 1938; Chile, 1938; Brazil, 1939; and Denmark, 1939. A most-favored-nation reciprocal trade agreement was concluded between the United States and Argentina provisionally in 1941 and definitely in 1943.

Countries entering into these agreements were to receive from Argentina exchange permits in advance at favorable official rates. Under these provisions, Argentina agreed to transfer funds to the foreign country at an exchange rate not less favorable than that granted any third country and in value not exceeding the equivalent purchases of Argentine commodities by the foreign country. In the transfer of funds, reductions were made for servicing Argentina's foreign debt and, in some cases, for other purposes. Likewise, the foreign country, whether it operated under exchange control or not, agreed to transfer funds without delay or restriction and at a rate of exchange not less favorable than that applied to any other country.

A number of commercial treaties were negotiated by Argentina with other Latin American countries; these usually included reciprocal reductions in duties on specified import commodities and assured most-favored-nation treatment in exchange-rate dealings. As the United States concluded reciprocal trade agreements with Latin American Republics, Argentina concluded similar ones, many simply of the most-favored-nation type, so as to gain the concessions made by and to the United States.

United Kingdom-Argentine Agreement.- The Roca-Runciman Commercial Convention was the first and most important bilateral trade treaty arranged by Argentina. It was concluded with the United Kingdom May 1, 1933, following several years of negotiation. The Convention was augmented by the Supplementary Customs Agreement signed at Buenos Aires in September 1933. The conclusion of the trade agreement was important to both parties, since Argentina is Britain's chief supplier of meat and other foodstuffs. It was considered a victory for the British.

The terms of the agreement gave Britain an advantage, since it normally buys more from Argentina than Argentina buys from Britain. The United States, on the other hand, normally sells more to Argentina than Argentina buys from it. The Argentine catch phrase, "Buy from those who buy from us," may well have been suggested by the slogan, "Buy British," which was then being popularized in the British Dominions, after the Ottawa Conference. At that Conference the Dominions gained trading advantages with the United Kingdom, and Argentina thereafter was anxious to obtain similar trading concessions. Consequently, Argentina was anxious to conclude the Roca-Runciman Agreement.

The United Kingdom granted Argentina, in the Commercial Convention, equality with the British Dominions in the acceptance of Argentine meat exports. This meant that Argentina was granted equal treatment with the Dominions if it became necessary to reduce the established British scale of meat-import quotas. The British conceded that Argentine imports would not be reduced below a certain level[4] unless special circumstances warranted such action; that Argentina would be consulted before import restrictions were imposed; and that, if restrictions were imposed, they would be on an equitable basis among the several countries which constituted the leading suppliers of the United Kingdom market.

Argentina, on the other hand, extended preferential exchange treatment to the British, which has continued to date. This treatment specified that, when exchange control operated in Argentina, all sterling exchange derived from Argentine products sold to the United Kingdom, less a reasonable sum for servicing the Argentine debt, would be made available to the United Kingdom at favorable official rates. This arrangement ensured that most of the returns from sales to Britain would be spent on goods purchased from that country.

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[4] No lower than 90 percent of the imports during the quarter of the year ended June 30,1932.

The United Kingdom agreed, in the Supplementary Customs Agreement, not to make changes in the duty status of certain products of advantage to Argentina or to restrict quantitatively imports of other specified products. In reciprocation, Argentina reduced import duties on some 300 items and bound the duty against increases on other merchandise. Argentina generalized (extended to other countries) the tariff provisions of the treaty so as not to violate the principle of equality of treatment, but the British selected items for duty reduction of which they were the chief supplier. This, however, is not merely British trading strategy but an established principle of bilateral bargaining.

On December 1, 1936, the customs agreement was replaced for a 3-year period by a new trade agreement. Under this agreement, Argentina's tariff concessions made earlier were continued, and, in addition, others were made, including maintenance of the Argentine market for British coal, protection of British shipping (Britain owns most of the refrigerated meat-transport vessels) in the event that Argentina established meat-export control, setting of minimum import quotas for British rayon and cotton piece goods if quantitative import restrictions were placed on them by Argentina, and cooperation in the regulation of British beef supplies through an international conference. The United Kingdom in the new agreement imposed duties on certain meats imported from non-Empire sources and established minimum quotas for Argentine beef imports.

The 1936 agreement was extended in force from time to time. On August 21, 1945, a formal notice was handed the British Ambassador in Buenos Aires stating that Argentina would terminate on February 21, 1946, the Roca-Runciman agreement. However, in an exchange of notes the two Governments decided to keep the agreement in force for an additional 6 months, or until August 20,1946, as a "gentlemen's agreement."

When August 20, the dead line of the agreement, approached, the British sent a trade mission to Argentina to negotiate a new treaty. An increase in the bulk-agreement meat prices was demanded by Argentina.

On September 17, 1946, Britain and Argentina entered into a four-point agreement covering meat shipments at increased fixed prices; the gradual release of blocked sterling; the operation of British-owned Argentine railroads under a mixed, but Argentine-controlled, company; and proposals for a new general trade treaty. The British agreed to buy 83 percent of the Argentine exportable surplus of meat during the year commencing October 1, 1946, and 78 percent the following year. Quantities for two additional years thereafter will be set by negotiation. Argentina was granted an average increase in meat prices of approximately 7.5 percent over existing prices. This is the same increase that the British granted New Zealand a few weeks previously, but it is an increase of about 45 percent above the prices paid Argentina in 1939.

United States-Argentine Agreement.- The principle of bilateral trade balancing was used by Argentina in its commercial relations - particularly after 1931 - until a change was forced by circumstances prevalent during World War II. Credits derived from export commodities could be used to purchase needed imports in many cases only from the country which received the exports, and, frequently, the latter was not in a position to supply the needed goods. The difficulty, moreover, of obtaining supplies, combined with shipping abnormalities, forced Argentina to obtain supplies during the war principally within the Western Hemisphere.

Since 1939, trade agreements have been negotiated with 12 nations,[5] 10 of which are in the Western Hemisphere. The agreements were all of the unconditional most-favored-nation type and not of the bilateral type. However, most-favored-nation treatment did not extend to exchange in all cases. The exceptions were usually made in agreements concluded with neighboring countries.

Because of the difficulty in obtaining needed imports, Argentina entered into several bilateral agreements in 1946 whereby it agreed to exchange certain quantities of wheat at stated prices for specified quantities of commodities in short domestic supply. Missions are being sent to Buenos Aires from a number of Latin American and European countries in an effort to negotiate other trade agreements, some of which will probably be bilateral in nature.

As a matter of policy, the United States has not made trade agreements of a bilateral nature. Consequently, a United States-Argentine agreement was not negotiated until 1941, after the character of Argentine commercial treaties changed.

The Argentine Government in January 1939 introduced a system of import permits on United States commodities devised to reduce imports from the United States by 40 percent. Argentine Government officials calculated that a reduction of 40 percent in imports from the United States was necessary to achieve a balance in the trade of the two countries which, they explained, was essential because Argentina had a large deficit in its balance of payments, necessitating the export of gold to the United States and consumption of monetary reserves. They stated that Argentina would be willing to increase its imports from the United States only if the United States likewise augmented its purchases in reciprocation.

An attempt was made to negotiate a trade pact between the two countries in 1939 and 1940, but it was impossible to reach an agreement then. Negotiations were renewed, however, the following year which resulted in an agreement being signed in October 1941.[6]

The countries granted each other unconditional most-favored-nation treatment of custom duties, methods of levying duties, customs clearance, import and export quotas, and exchange allocation. For the duration of the wartime emergency, however, it was agreed that Argentina would not extend full nondiscriminatory treatment to United States trade because of blocked Argentine exchange in the sterling area - chiefly in London. Most-favored-nation provisions did not function during the war on exchange and quota matters, and, as a result, on imports from the sterling region.

Commodity Controls

The Argentine Grain Regulation Board, a governmental agency, was organized during the depression of the 1930's to assist the grain industry. Grain was bought at support prices from 1933 through 1936. Thereafter the Board was inactive until 1939, when it again commenced to support prices because of the effects of the war upon world markets. After the war began, it handled several commodities in addition to grain and in some cases became the sole exporter. When the war ended in 1945, world food demand became so great that the Board sold commodities on the world market at prices far in excess of those received by domestic producers. The differentials in its buying and selling prices have been used to cover the losses incurred when prices were supported in previous years.

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[5] Brazil, 1940; Norway, 1940; Chile, 1940; Colombia, 1940; Cuba, 1940; Canada, 1941; the United States, 1941; Peru, 1942; Venezuela, 1942; Ecuador, 1943; Paraguay, 1943; and Sweden, 1945.

[6] For details of this agreement from the agricultural standpoint, see *(4)*.

In 1933, the Grain Regulation Board began to fix support prices for wheat, flaxseed, and corn.[7] It purchased at these fixed prices and sold at world prices on the export market, thus suspending private trading. The losses were covered by income derived from exchange-control transactions. Improvement in world prices resulted in termination of the Board's operations in 1936.

Surpluses created by the wartime loss of important market outlets caused the renewal of the Board's operation in 1939, when support prices were again fixed for wheat and flaxseed. In the following year, minimum prices were established for corn, wheat, barley, and flaxseed, and the Board acquired exclusive control of the marketing of these commodities. To receive price benefits, producers were required to reduce their cultivated acreage. Revenue for the Board's operation was raised by levying a tax on grain processing. Because large surplus stocks had accumulated, monopoly control of the grain trade was assumed by the Grain Regulation Board in November 1941, and sunflower seed was added by the end of the year.

Production control was relaxed in 1943. This was because of crop failures and an increasing demand for grain for use as domestic fuel when the serious wartime shortage of shipping space prevented the importation of coal and petroleum. In that year, the Board was reorganized under a new name, the Board for the Regulation of Agricultural Production. Its regulatory powers were extended to other agricultural commodities, and grain elevators were placed under its supervision as public utilities. Most of the Argentine and British elevators and other port installations for handling grain were expropriated by the Federal Government in 1944. The remainder were taken over in April 1946.

In 1944 the Board was reported to have made a profit of 65.5 million pesos ($16,200,000) on its grain trading. This reduced to 539.4 million pesos ($133,500,000) the deficit incurred from 1939 through 1943, which included 162.7 million pesos ($40,300,000) of administrative expense, interest, and commissions. At the end of 1944, however, the Board owed the Central Bank 808.3 million pesos ($200,000,000), which included funds borrowed for current operations.

During the wartime emergency - from 1939 through the early months of 1945 - the Argentine Government supported prices. When European buyers entered the market at the end of the war in 1945, however, foreign demand strengthened, and prices tended to advance above support levels. Nevertheless, a free market was not restored, for the Board continued its control over certain exports under an Executive decree of December 26, 1944. The Board refused to issue export permits for corn, except to gain special concessions, which will be mentioned later. It continued as the sole purchaser of export wheat but bought the grain at prices that were more in line with rapidly rising world prices and thus above the support levels. The Board continued to sell the entire exportable surplus of flaxseed and linseed oil to the United States Commercial Company as it had done during the war, with the exception of the usual sales to other countries of Latin America and to the neutral countries of Europe.

As a result, private trading in these commodities was prohibited, and sales were channeled accordingly. Producers received the fixed prices, but the Board sold on the world market at whatever it could get. The profit made by the Board on these transactions went into the national treasury, and a portion was used to offset subsidy payments to domestic millers.[8]

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[7] For a comprehensive discussion of the activities of this Board up to 1942, see (5).

The Argentine Government undoubtedly desired to realize as large a return as possible from the favorable export market. At the same time, it wished to keep domestic prices at low levels. High export prices normally tend to increase domestic prices somewhat proportionately. Consequently, many controls were placed upon domestic prices and export shipments in an effort to pursue these conflicting objectives. An attempt was made to create a system of dual prices - high export and lower domestic prices - in order to keep foreign buying from competing too severely with domestic buying. Although export controls were placed over some 200 items to reserve enough food for domestic consumption and keep local prices relatively low, certain quantities were placed on the international market at higher prices. Thus, in order to make such a dual-price system effective, the Government was forced to establish state control of prices and trading.

Corn.- The Regulation Board supported corn prices throughout World War II, buying and storing the grain whenever necessary. The short 1944-45 crop and the increasing need of the grain for fuel put the actual price, however, above the support price.[9] Nevertheless, the export movement of this grain was controlled by a system of export permits to ensure adequate retention for domestic needs. The use of corn as fuel to provide heat and power was particularly important when coal and petroleum could not be imported.

From late March through September 1945, no offerings of export corn were permitted in view of the short new crop. On September 28, the Grain Regulation Board modified this by allowing exporters to move 220,000 short tons at 15.50 pesos per 100 kilograms ($1.17 per bushel). By late 1945, when European buyers were in a position to reenter the market to purchase the grain needed for food and feed, they offered as much as 19.00 pesos per 100 kilograms ($1.44 per bushel).

By 1946, fuel imports were plentiful, and the 1945-46 harvest was somewhat more abundant than that of 1944-45. Argentina, therefore, offered the grain on the open market. Because of the great demand created by the serious world food situation, export corn was quoted at 26.50 pesos per 100 kilograms ($2 per bushel) in July 1946, but it declined to 21.00 or 22.00 pesos ($1.59 or $1.66 per bushel) in August, chiefly because of the large United States harvest.

On February 10, 1947, the Government announced that its buying and foreign-sales monopoly in the future would include corn. The price offered producers was 10 pesos per 100 kilograms ($0.76 per bushel) on track at Buenos Aires. Thus, all corn for export had to be sold at this price. Producers protested sharply. They declared this was below cost of production. Government officials announced that no corn would be exported until 30 pesos per 100 kilograms were offered at shipside in the port of Buenos Aires.

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[8] The Government raised its buying price for wheat on November 10, 1945, to the equivalent of 15 pesos per 100 kilograms ($1.22 per bushel, U.S. currency) and granted millers a subsidy of 5 pesos per 100 kilograms ($0.41 per bushel) to avoid a rise in domestic bread prices. On this basis, millers had to pay 1 peso per 100 kilograms more than previously.

[9] The support price was 7.70 pesos per 100 kilograms ($0.58 per bushel) on cars at Buenos Aires, and the selling price reached 9.00 pesos ($0.68).

Wheat.- Shortly after the termination of World War II, the Argentine Government adopted the principle of maintaining a differential between domestic and export wheat prices. A selling rate of 35.00 pesos per 100 kilograms ($2.84 per bushel), exclusive of loading cost on board ship, was established and maintained for export wheat. This is nearly three times the price at which the Government offered wheat to domestic millers and 15.00 pesos per 100 kilograms above the payment to producers, including a 5-peso bonus. As a result, the profit made on export transactions reduced the Grain Regulation Board's indebtedness which had accumulated during previous low-price periods.

The Grain Regulation Board controlled the buying price and rate of export movement of wheat more or less continuously after the start of World War II. Although corn was sold by private grain dealers on the free export market at prices exceeding the Government-support price, the Grain Board, which had been the sole exporter of wheat, did not grant wheat producers prices for their exportable surplus in excess of support levels. The Board appeared to be more interested in low domestic wheat and flour prices than in low domestic corn prices. All wheat for export had to be sold to the Government at its price-support level, which, consequently, was the actual buying price of the export crop.

Until November 10, 1945, the Board's support price for wheat was 9.00 pesos per 100 kilograms ($0.73 per bushel), bulk basis on cars in Buenos Aires. Several weeks prior to this date, brisk demand permitted the Board to increase its selling price to exporters to 13.00 pesos ($1.05 per bushel). Later the selling price advanced still further. Thus, on November 10, 1945, the Board raised its support price to 15.00 pesos ($1.22 per bushel).

Millers producing wheat products for domestic use were required to purchase supplies in the open internal market at prices not lower than the Board's purchase price, and they were given a subsidy of 5.00 pesos per 100 kilograms ($0.41 per bushel) on their purchases so as to hold the line on bread prices. The subsidy was later reduced to 3.00 pesos when the value of milling byproducts increased substantially. Actually, some millers, to ensure a supply, paid more than 15.00 pesos for wheat, despite the control of bread and flour prices.

During the early months of 1946, wheat exports were below expectations. In late 1945 and during the first quarter of 1946, the Argentine Government held prices paid to producers for export wheat at a level out of line with foreign demand and relatively below other grain prices.[10] This caused speculative holdings and an abnormally large movement of the grain to domestic millers, who were free to pay more than the price paid for export supplies.

On April 17, 1946, the Government by decree assumed control of all wheat exports and became the sole buyer of existing wheat of all crops at 15.00 pesos per 100 kilograms. A bonus payment of 5.00 pesos per 100 kilograms was offered for wheat produced in the 1945-46 crop year for 60 days, commencing on the above-mentioned date.[11] An announcement was made that, if any wheat owner had not sold his wheat to the state by the end of this period, it would be expropriated at 15.00 pesos and the owner would be deprived of the benefits of future dealings with the Grain Regulation Board. By the end of the period, the Government owned practically all the nation's wheat.

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[10] 15.00 pesos per 100 kilograms ($1.22 per bushel), bulk basis on cars in Buenos Aires.

[11] This, in effect, increased the purchase price of export wheat by 40 cents a bushel, or from about $1.22 to $1.62 per bushel.

The Government announced in November 1946 that the farmer would receive 16.00 pesos per 100 kilograms ($1.38 per bushel) for wheat from the 1946-47 crop, grade 2, basis on cars or lighters in the port of Buenos Aires, for the first 331 short tons sold by either the individual farm or farmer and 15.00 pesos per 100 kilograms ($1.22 per bushel) for all additional amounts. This compares with the 15.00 pesos paid at the beginning of the previous year to which was later added the bonus of 5.00 pesos per 100 kilograms. Farm organizations and the daily press registered extreme displeasure at these prices.

The Anglo-Argentine meat agreement of October 1946 left only about a fifth of the Argentine exportable surplus of meat available for free trading. Since then, a number of agreements involving meat and grain have been made with European countries. Consequently, relatively little wheat, or meat, appears to be available in Argentina for free markets. Other wheat-producing nations, notably Canada and Australia, have likewise entered into agreements for disposal of their wheat output. Thus, free international trading in these commodities is greatly reduced.

Other Grains and Oilseeds.- Oats, barley, and rye during the war were free of pricing, trading, and quantitative controls.[12] Thus, while the buying price of wheat increased 60 percent during 1945 by an upward adjutment of the Board's fixed prices, during the same period oats, feed barley, and rye increased in price by about 285, 350, and 375 percent, respectively, on the free market. Before the export price was set at 35.00 pesos, wheat producers said that the Board's policy prevented their grain from making similar advances. After it was set at this figure, the export price of rye, barley, and oats closely approximated that of wheat on a weight basis, and corn reached record levels also. Since there were no local ceilings on these grains, their high price forced the use of wheat as a substitute for them in feeding livestock.

In February 1947, oats, barley, and rye were brought under the Government's buying and selling monopoly. The buying prices established by the Government were considered very low by producers, especially in view of the much higher selling prices.

During the war, the Grain Regulation Board bought the entire surplus outturn of oilseeds and vegetable oil and sold it at an agreed contract price to the United States Commercial Company. When the contract expired in 1946, however, representatives of the two nations could not come to terms on a new agreement, and exports of these products virtually ceased.

Under a decree of May 23, 1946, the Argentine Government assumed responsibility for the purchase and sale of oilseeds, vegetable oils, and oil cake and meal. The buying price per 100 kilograms of flaxseed was fixed by decree at 35.00 pesos; sunflower seed, 28,00 pesos; and shelled peanuts, 44.00 pesos.[13]

The buying prices per kilogram, f.o.b. ports, were fixed at 0.99 peso for linseed oil, 1.21 pesos for sunflower-seed oil, and 1.15 for peanut oil.[14] Under the decree, the Central Bank became the sole purchaser at these prices. It set the domestic and export-sale prices and determined the quantities to be exported. Prior to the establishment of the prices above, growers received 17.00 pesos per 100 kilograms for flaxseed at terminal elevators, or $1.28 per bushel. Under the decree, the state took possession of all stocks of oilseed in the country and of vegetable oils held for export, both at fixed prices. The prices at which the Central Bank offered these oils to foreign buyers were far in excess of its buying price. In November 1946 the Government announced that it would pay 30.00 pesos per 100 kilograms for flaxseed from the 1946-47 crop instead of 35.00 pesos which had been paid for the previous crop.

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[12] These grains moved freely until the resolution of March 11, 1946, subjected them to export control by prior export permits.

[13] Equivalent prices in U.S. currency are: Flaxseed, $2.64 per bushel; sunflower seed, $17.66 per ton; and shelled peanuts, $118.84 per ton.

[14] U.S. equivalents: Linseed oil, $0.135 per pound; sunflower-seed oil, $0.163; and peanut oil, $0.155 per pound.

Meat.- Livestock products, ordinarily second in export value after grains, go chiefly to the United Kingdom. They were exported to that country prior to 1933 on an unrestricted basis but thereafter moved under quotas established by the Roca-Runciman Agreement. In 1936, British duties were levied against beef imports from non-Empire countries, and the import-quota system was extended.

An Argentine National Meat Board was created in 1933, with regulatory powers over the livestock industry. It was empowered to establish livestock and meat grades and classifications for the domestic and export markets, to standardize packaging and conditions of transporting, to construct and operate packinghouses, to reduce domestic prices and raise consumption, and to levy a tax of 1 percent on the value of livestock sales to defray its operating costs and better the industry's welfare.

In 1934, the Meat Board organized the Argentine Corporation of Meat Producers, a producer-owned organization which slaughters and markets cattle for producers in competition with large packinghouses owned by United States and British interests. In recent years the Corporation has acquired, constructed, and operated cattle-marketing agencies, packinghouses, and storage facilities throughout the country in an effort to increase sales and lower the price of meat to domestic consumers.

When the British imposed import duties on Argentine beef in 1936, an Argentine Executive decree authorized subsidies for exports of beef to the United Kingdom. In effect, this was an indirect payment from the Argentine to the British Treasury. This subsidy was discontinued in August 1937, when beef prices increased. Other subsidies have aided cattle producers selling on the domestic and foreign markets from time to time. Funds for such subsidies are usually derived from exchange-control profits.

Argentine meat exports, unlike grain exports, were not retarded by World War II. While outranked by corn and wheat in prewar years, beef was the most important export during the war, most of it going to the United Kingdom.

Wartime meat exports moved under bulk-purchase agreements negotiated between the Argentine Meat Board and the British Ministry of Food. Negotiations began immediately after the war started in 1939, and the resulting agreement covered a 4-month period during which Argentina was to ship about 25 percent more meat than allowed under the Roca quota for the same months of the previous year. This agreement was extended from time to time under terms favorable to Argentina. A new agreement was signed in August 1943, to be effective until September 20, 1944, for 1,500,000 metric tons (1,650,000 short tons) of beef, mutton, pork, and beef products. It provided higher prices than the previous war agreements.

A general agreement was reached in August 1945 - retroactive to October 1, 1944 - between the Argentine Meat Board and the British Ministry of Food on the terms of a new bulk-purchase meat contract. The agreement provided that the Ministry, acting on behalf of the United Nations, would accept all available surplus beef and other meats for several years over and above the usual trade with Latin America at substantial increases in prices above the previous agreement which expired in 1944. Unless increased costs or other substantial changes in conditions should necessitate interim reviews and a consequent agreement to modify the terms, the agreement in respect to beef, mutton, and lamb was to continue until September 30, 1948. By mid-1946, however, in view of world prices, Argentina was extremely dissatisfied with the meat prices under the contract and demanded sharp upward revisions. A new Anglo-Argentine agreement was negotiated and made effective on October 1, 1946, under which somewhat higher meat prices were permitted.

Exports of meat were hindered in 1945 and 1946 by several factors. Drought in 1944 and 1945 seriously impaired pastures; short corn crops and increasing corn prices curtailed hog production; packinghouse strikes were prevalent in both years; and increasing domestic-consumer demand tended to divert supplies from foreign trade. The agreement of August 1945 fixed minimum hog prices at 55.00 pesos per 100 kilograms, $7.40 per 100 pounds live weight, which made hog production somewhat more profitable for a few months only. An increasing disparity between corn and hog prices reduced hog production and caused Argentina to demand the still higher prices agreed upon in the Anglo-Argentine agreement of October 1946.

Under these agreements, the Argentine Government, through the Meat Board, did not trade directly in animal products as it did with certain crops through the Regulation Board. It, nevertheless, was the sole negotiator with the British for the livestock trade. Each agreement negotiated was for specified prices and quantities. Consequently, the Meat Board rigidly controlled prices of livestock products in an attempt to move the commodity at the agreed export price, with fair profit to producers and packinghouses and treatment of both as equitable as possible.

Trade Promotion

When the Central Bank assumed control of exchange transactions in 1941, a Trade Promotion Corporation was established to promote foreign trade. It encouraged nonregular exports, including eggs, cheese, fruits, wine, and some packinghouse byproducts, as well as exports of new industrial products.

The Corporation was a nonprofit organization, whose stockholders represented firms interested chiefly in importing industrial goods. It had a capital of 1 million pesos; dividends were limited to 4 percent of the capital; and dividends and earnings were used to promote trade, to develop foreign markets, and for marketing research. The Corporation's principal income consisted of certain profits made on the Government's foreign-exchange transactions. These funds were used to make a survey of the nation's industry in 1942 and otherwise to stimulate industry - especially new enterprises. The Corporation promulgated export standards and collected trade statistics. Offices were maintained in Chile, Colombia, Ecuador, Mexico, Peru, the United States, and Venezuela.

State Trading

In May 1946, the Corporation was dissolved by decree to make way for the new Government-controlled entity, the Trade Promotion Institute, which was to be more closely under the control of the Central Bank. The new organization was empowered to enter into import and export contracts. Its funds, like those of its predecessor, are drawn from the Central Bank. The Institute's functions are similar to those of the Corporation but more closely state controlled. It aids in the development of domestic industry, promotes foreign trade, purchases supplies and equipment required by the Government from foreign sources, and acts as a governmental agency in the negotiation of commercial agreements.

Through this Institute, the Government functions as the sole domestic buyer and exporter of corn, wheat, oats, barley, rye, meats, oilseeds, vegetable oils, and other commodities.[15] The Government buys these commodities at officially designated prices and exports them under Government-arranged contracts at officially established prices.

High export levies are made in many cases on commodities in which free trading is permitted. In some such cases, the Government suggests officially desired export prices and destination. Compliance can be enforced because all exports move under permits.

Scarcely anything of an agricultural character can be exported prior to the issuance of official export permits. In cases where state trading is practiced, export permits are issued only to the Trade Promotion Institute. Where free trade prevails, the permits are issued to private exporters. Export quotas are established from time to time for certain products. In some instances, shipments have been embargoed for brief periods to protect domestic supplies.

On many exports that move in free-trade channels special export duties, sales taxes, and other minor fees have been levied so that the Government can also make a margin of profit on these items. Exporters recently have had to relinquish to the Trade Promotion Institute 20 percent of gross, f.o.b., returns on poultry sales to certain outlets, 5 percent on meat sales to Britain, and 2 percent on quebracho-extract exports. If the Government can take a satisfactory margin of profit under free trading, state trading probably will not be put into effect.

Government policy covering profits permitted to private manufacturing and exporting firms was still in the process of formulation in early 1947, but officials clearly indicated that only a limited service compensation would be permitted, particularly on goods handled for Government account. Commissions to brokers and shippers of oilseeds and casein were restricted to 1 or 2 percent of the value of products, and there were similar limitations on grain shippers.

In early 1947, the Government was paying producers a maximum price of $1.38 (U.S.) per bushel for wheat delivered in Buenos Aires.[16] It was selling wheat delivered beside ship in Buenos Aires to foreign buyers chiefly for $2.84 per bushel, and some sales were reported at $3.24 and $3.65 per bushel.

Determined to get its asking price, the Government has not hesitated in suspending exports for long periods while price negotiations have been in progress. Shipments of vegetable oils and meals were held up for nearly 8 months in 1946 pending the conclusion of terms that were satisfactory to Argentine officials. These terms were at prices three times higher than those prevailing the preceding year under private trade. The resulting profit margin to the Government amounted roughly to about 40 percent of the f.o.b. value of the oils.

Aside from financing the 5-year plan from which farmers and industrialists will benefit, these profits go to offset the cost of certain Government subsidies for domestic consumption. Wheat has been sold to millers, also sunflower-seed oil and sugar, to retailers for domestic use, at prices somewhat below the Government's farm-purchasing prices to keep domestic prices low. The profits also will offset the cost of subsidizing production in past years and will serve as a reserve to pay for subsidies in future years.

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[15] Dairy products, hides and skins, lard, eggs, margarine, tallow, soap, ethyl alcohol, olive oil, millet, birdseed, quebracho, rice, and vegetables.

[16] Most wheat is purchased at $1.22 and not $1.38 per bushel, however.

Countries desiring to purchase farm commodities from Argentina have found it advisable to enter into formal bilateral agreements to secure definite quantity commitments. Several countries entered into such agreements in 1946, and some 18 missions were in Buenos Aires late that year attempting to make suitable arrangements. Most agreements negotiated covered 5 years, during which time Argentina agreed to export a certain proportion of its exportable surplus of grains and meats. Each party generally agreed to exchange goods for goods, keeping accounts as nearly as possible in balance over the period of agreement to minimize currency exchange. Terms generally stipulated that a proportion of the goods traded was to be carried in Argentine vessels.

Shipments, particularly of grains, were promptly suspended to countries failing to make agreed quantities of goods available to Argentina.

To summarize, close control over trade is exercised reputedly to: (a) Protect domestic consumers against the diminution of supply to subnormal levels and resulting retail-price advances, (b) ensure that shipments to various countries are in accord with any trade commitments to same, (c) facilitate the acquisition abroad of critical items wanted for import into Argentina, (d) enforce domestic processing of raw materials to the maximum extent, (e) prevent speculation and excessive profiteering by exporters, and (f) obtain higher export returns for producers and particularly for the Government.

Prospects for Future Foreign Trade

Intensification of governmental controls in Argentina appears to be in prospect. On October 21, 1946, the Chief Executive outlined before a special session of the Argentine Congress a 5-year plan for the reformation of agriculture, industry, and society. The plan is based upon 27 measures submitted by the Executive to Congress. Immediate passage was expected in order that the plan could start functioning by January 1, 1947. The important phases of the plan are the extension of state control over the national economy and the industrialization of the country. The Chief Executive pointed out that one of the first steps under the plan would be the decentralization of industry, which is now largely located in Buenos Aires. He said that the Government desired to put into effect an ordered economy under which it would sell products in a manner considered best for the interests of the nation.

Proposals in the 5-year plan include a program of selective immigration of farmers; federal colonization of public farms and reclaimed lands; assistance to private farm colonization and to farm-production cooperatives; soil-erosion, forest-management, and fisheries control and assistance; control and subsidization of plants processing essential commodities; and increased production goals for cotton, wool, and rayon yarns, coarse fibers, and washed wool.

Three governmental planning agencies were expected to take a prominent part in future reforms. The Agrarian Council was to plan certain land expropriations, colonization, and irrigation; the Postwar Council, industrial reorganization in an effort to make the nation industrially self-sufficient and a competitor on the world industrial market; and the Secretariat of Labor and Welfare, improved conditions for farm and industrial workers. Expropriation of the large estancias has not been undertaken as yet by the Government, but some have been subdivided by inheritance. The heavy taxes imposed on holdings over 25,000 acres in size favor subdivision.

Argentina emerged from World War II with reduced foreign indebtedness,[17] increased gold reserves, accumulated foreign exchange,[18] expanded Government ownership of important local enterprises, and stimulated domestic industrial output.

During the war, the United States served as a principal market for Argentine vegetable oils, wool, hides, cheese, and casein, and the United Kingdom continued to absorb most of the Argentine meat output. Brazil was the chief purchaser of Argentine wheat during the war. Other Latin American countries purchased chemicals, cement, textiles, and other manufactured items principally. During this period the volume of Argentine exports declined, but the value increased because of higher prices, the exportation of more animal products (meats - especially boned meat - dairy products, and dehydrated eggs), decreased exports of such bulky items as wheat and corn, and increased vegetable-oil exports in place of oilseeds.

In the future its foreign trade will contain a larger proportion of industrial exports. The country is in a position to continue offering the international market large quantities of beef, mutton, lamb, pork, lard, and dairy and poultry products. The corn-hog ratio will be a strong controlling factor in pork and lard production, because, although Argentine cattle and sheep are produced chiefly on pasture grasses, hogs are raised on corn.

Argentina will offer the world market more vegetable oils because of wartime increases in the oilseed acreage. Expansion of oilseed-crushing facilities during the war has resulted in the export of vegetable oils instead of oilseeds. Large stocks of wool accumulated during the war. Disposition of these stocks has been favored by the good demand for the particular grade of the Argentine product, and by mid-1946 most stocks had been taken up. Considerable olive and tung oil probably will be offered the world market in a few years, since large acreages of olive and tung trees were set out during the war.

With regard to grain, Argentina will continue to be a leading exporter, even with marked declines in prices, because of conditions favoring grain production in that country. European grain demand should continue strong, even after famine conditions terminate, and Argentina will likely increase its corn and wheat acreage to prewar levels.[19] Even with these increases, however, exportable surpluses of corn may not be so large as in prewar years because of some expansion in domestic consumption.

The improvement in the country's financial position means that less foreign exchange need be derived from exports to meet foreign financial obligation and to pay for necessary imports. Thus, Argentina, in the future, could survive financially on restricted foreign trade. The Government's strong control over production, marketing, and foreign trade of agricultural products and its control of industry probably will continue, particularly in view of the 5-year plan.

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[17] The foreign debt was reduced by more than one-half during the war, and blocked funds could cancel the balance.

[18] A large part of which is blocked in England.

[19] Corn acreage declined by about one-third during the war; wheat acreage by about one-tenth.

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